THIS WEEK'S NATIONAL PETROLEUM NEWS

The Recognized Authority on News, Markets and Technical Developments in the Oil Industry

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COMING MEETINGS

General Exposition

Texas Centennial Exposition, Dallas and Ft. Worth, June 6 to Nov. 29.

Oil Meetings

American Institute of Mining and Metallurgical Engineers, Statler Hotel, Cleveland, Ohio, Oct. 19 to 23.

Association of Gas Appliance and Equipment Manufacturers, first annual convention and exhibit during 18th annual convention of American Gas Association, Atlantic City Auditorium, Atlantic City, N. J., Oct. 25 to 30.

Oil Trades Assn. of New York, annual banquet, Waldorf Astoria Hotel, New York, Oct. 27.

National Oil Marketers Association, annual convention, Stevens Hotel, Chicago, Ill., Oct. 27 to 29.

Indiana Independent Petroleum Association, fall convention, Hotel Severin, Indianapolis, Ind., Nov. 4 and 5.

Mid-Continent Oil & Gas Association, (Louisiana-Arkansas Division) annual membership meeting, Shreveport, La., Nov. 5.

American Association Petroleum Geologists. Pacific Section, Biltmore hotel, Los Angeles, Calif., Nov. 5 and 6.

American Institute of Mining Metallurgical, Western Meeting, Mexico City, Mexico, Nov. 7 to 16.

American Petroleum Institute, 17th annual meeting, Stevens Hotel, Chicago, Nov. 9 to 12.

National Automobile Show, Grand Central Palace, New York, N. Y., Nov. 11 to 18.

Society of Automotive Engineers,

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THOMAS MIDGLEY, JR.

Thomas Midgley, Jr., vice president of Ethyl Gasoline Corp., and of Kinetic Chemicals, Inc., of Detroit, was granted the Wm. H. Perkin Medal for 1937, in recognition of "outstanding work in applied chemistry."

Midgley first came into international prominence in 1922, through his work in collaboration with T. A. Boyd on anti-knock addition compounds, which included the development of tetraethyl lead. Following this epoch-making development, Midgley investigated and developed the application of organic fluorides to refrigeration, with the result that we also owe much of our knowledge and practice of domestic refrigeration and air conditioning to him.

NATIONAL PETROLEUM NEWS

VOLUME 28 NUMBER 42

Specifications for Motor Fuel Asked by Tax Conference

RICHMOND, Va., Oct. 9

A MOVEMENT to have specifications established for motor fuel moving between the states will be sponsored by the North American Gasoline Tax Conference, it was decided at the organization's eleventh annual convention here.

Specifications for transport equipment handling and moving inflammable liquids in interstate commerce will also be sought by the tax conference.

Since regulation of interstate commerce is involved, both of these objectives will require the enactment of federal regulation.

Another highlight of the four-day meeting of gasoline tax officials from 38 states was the disclosure that Attorney General Cummings has ruled motor fuel sold by concessioners in national parks is subject to state gasoline taxes.

The conference renewed its intention to seek uniform state gasoline tax laws and reiterated its opposition to granting tax refunds or exemptions to anyone except the U. S. government.

San Francisco was chosen for the 1937 conference. Twenty-one cities submitted invitations, but it was a tie vote between Tulsa and San Francisco, with Tulsa losing out in the coin toss.

Getting down to business Oct. 6, after being welcomed by Governor Peery of Virginia, the 200

By A. M. PETTY
N.P.N. Washington Bureau

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delegates, including representatives of oil companies and trade associations, heard Assistant Attorney General Dolan of Illinois make a comprehensive review of recent court decisions on the gasoline tax.

Walter Reddy, of the Michigan gasoline tax division, next discussed the legality of taxing diesel fuel, which, he said, depends on the definition of "motor vehicle fuel" in the state tax law. Already 36 states have decided that their motor-fuel tax can be applied to diesel fuels, he said.

Any fuel that accomplishes the privilege of using the highway, he added, should not be "discriminated against by ignoring it for tax." Reddy was named chairman of a committee to study the question of taxing diesel fuels and report later with recommendations.

Discussing ways of combatting adulteration and misbranding, W. B. Banning, Nebraska's director of inspection, told how his state has set up 31 ports of entry through which the 600 transport tank trucks now operating in Nebraska must enter the state.

One troublesome question now confronting Nebraska inspection officials, Banning said, is the prospective shipment into the state of "alky-gas" from the Chemical Foundation's alcohol plant at Atchison, Kans. First of these shipments was due to arrive shortly after he left to attend the conference, he added.

The alcohol, blended 50-50 with gasoline, was to be hauled by tank truck, Banning explained. The Nebraska law exempts from the gasoline tax motor fuel which contains at least a 5 per cent—but not over 20 per cent—blend of alcohol, he pointed out.

C. C. Brown, of the Oklahoma tax commission, wanted to know if "alky-gas" was exempted from tax on the theory that vehicles using blended motor fuel do not wear out the Nebraska roads.

Banning replied that it was to encourage a new use for farm products. He indicated that he was not especially strong for the scheme especially when, he said, much of the alcohol comes not from Nebraska or Kansas corn but is made from blackstrap molasses which is not a product of either state.

Carl Barker, St. Louis, public relations manager of Shell Petroleum Corp., urged that every effort be exerted to see that tax rules are reasonable, logical and kept to a workable

minimum. His subject was the problems of distributors arising from the gasoline tax.

Barker suggested that much good might come out of regular conferences between tax administrators and representative oil men. Many kinks in regulations could be ironed out by utilizing the combined experience of these oil men and the tax officials he stated. He said that the petroleum industries committee secretary in each state would be glad to aid in such a plan.

D. D. Hutchins, Arizona superintendent of motor vehicles, discussed the Hayden-Cartwright law passed by Congress last June, which contains provisions of the Woodrum bill applying state gasoline taxes to sales of motor fuel on federal reservations for non-governmental use.

Hutchins read a letter dated Sept. 22 from Attorney General Cummings to Secretary Ickes holding that motor fuel sold by concessioners in national parks is subject to state gasoline taxes under the new law.

Several state officials reported difficulties in collecting taxes from Army post exchanges, despite the new law. It seems that the War Department is construing the law very strictly and telling post commanders that they need not follow the procedure set by state law for other distributors in reporting and paying state taxes.

A committee, headed by Hutchins, was named to negotiate with the various federal departments involved in an effort to obtain better co-operation.

Major J. H. Ross, New York, president of the inland waterway carriers' association, told the conference about the great advances made in recent years in water transportation of gasoline and other petroleum products.

"Petroleum products are bulky and of low value in proportion to weight," Major Ross pointed out. "If the petroleum carrier industry had not perfected a transportation system, peculiarly its own and much less expensive than any other, all petroleum products would cost the consumer much more than they do today."

Besides the tankers and barges owned by oil companies, there are over a thousand tank vessels of various capacities owned by independent oil transportation companies, according to Major Ross.

He praised the patrol boat system adopted by New Jersey and some other states and expressed the belief that through this and the co-operation of the oil companies and water carriers these measures against tax-evasion are now largely of a preventive nature.

Discussing law enforcement and tax evasion, T. Coleman Andrews of Richmond, said that honest, efficient personnel is more important than the law.

Andrews recounted instances of how the gasoline tax was allegedly evaded in Tennessee through misbilling of gasoline.

To prevent this, he suggested that either the Interstate Commerce Commission classify gasoline and kerosine separately or Congress pass a law making it a criminal offense to bill gasoline as "kerosine" even though there was no intent to avoid paying freight charges. At present the ICC cannot penalize misbilling of gasoline unless it is done to evade additional freight charges.

He said that he had conferred with the chairman of the ICC and that there was little hope that the commission could correct the situation by classifying differently gasoline and kerosine. However, Andrews said the ICC would probably support a request to Congress for such a law as he suggested.

Andrews voiced vigorous opposition to the suggestion which he said had been made by some at the conference that state gasoline taxes be repealed in favor of a single tax to be collected and distributed among the states by the federal government.

"I am not talking politics when I say that I am getting disgusted with going to Uncle Sam for everything," Andrews declared. "It's getting so we can't go out at night without telling the internal revenue collector where we are going."

THE conference appointed a committee to study the proposal of Acting Chairman Leland of the Illinois tax commission that the gasoline tax collectors join with associations of state officials handling liquor, tobacco and other taxes so that grant of funds could be obtained from a research foundation for a permanent secretary and joint organization to exchange tax information between the states.

Two methods of combatting tax evasion through safety and inspection laws were put forward by E. D. Graham, of Oklahoma City.

Declaring that gasoline "bootleggers" usually have broken-down equipment and haul low-grade "motor fuel," Graham urged that the states consider adopting standards for equipment for tank trucks which, he said, are now being drafted by the ICC. He also suggested that Congress be asked to pass a law prohibiting the

(*Continued on page* 15)

Pays Respects to NPN's Fat Tax Collector

RICHMOND, Va., Oct. 8.—Addressing the North American Gasoline Tax Conference Oct. 6, Walter Reddy, of the Michigan gasoline tax division, pointed out how "some publications by the use of a none-too-flattering etching stress the intelligent aspect of the typical gasoline tax collector."

Mr. Reddy was referring to the cartoon of the Roly Poly Tax Collector with outstretched hand originated by NATIONAL PETROLEUM NEWS to emphasize how much of the consumer's dollar goes for taxes.

"My criticism of that carricature," Reddy told the gasoline tax officials from 38 states attending the conference, "is that he should be shown as being bigger because actually his gluttonous habits must be tolerated over a wider range of society than those merely addicted to the use of gasoline."

The Editor's Viewpoint

Handcuffs in One Hand, Hat In T'Other

By Warren C. Platt, *Editor*

By Teletype
TULSA, Oct. 13

HOW about the propriety, to say the least, of a high official of a government administration that has just indicted a group of men for alleged illegal conduct, and which government administration is still investigating the other acts of those men, asking these defendants for political campaign funds?

How about the good taste, to say the least, of a representative of this government administration excoriating, in violent language, these same defendants and pointing to the alleged "great profits" that the representative says the national administration has "made" for these defendants, the while he suggests quite pointedly support for the administration politically?

These questions naturally come to mind in reading the statement issued to the press through the publicity bureau of the Post Office Department, at Washington, last week, by and on behalf of the department's solicitor, who is its chief legal counsel. This statement was printed in the preceding issue of NATIONAL PETROLEUM NEWS.

In it the solicitor for the Post Office Department, of which Democratic Chairman Farley was the late head, condemns the oil companies for "pouring out money" to defeat Roosevelt, while the oil men were "among those most benefited by the Roosevelt prosperity." This lawyer from the Post Office Department refers to "biting the hand that feeds them" and calls for all "who are patriotic to aid as much as we can" the chairman of the Democratic Campaign Committee for Texas.

The "big profits" this lawyer talks of are arrived at evidently by figuring the gain in capital value on the stock market from the low of the depression to the present time. By this method he produces a "profit" to the holders of some unnamed oil company, but presumably the Standard of New Jersey, of nearly two billion dollars. He cites similar "profits" for other oil companies, four of whom are among those indicted at Madison, Wis. These are hardly what investors and financial men call profits.

The solicitor of the Post Office Department should also inform himself of the facts in regard to how the oil industry recovered from the depression. If he inquired from any truthful source he would learn that the industry recovered not so much from anything the New Deal administration did but in spite of what it did and did not do. He would find that the oil industry recovered through its own efforts and that the indictment of some of the oil companies is aimed at at least part of those efforts, the result of which Ex-Oil Administrator Ickes not long ago pointed to with pride and called one of Roosevelt's "outstanding achievements."

But how about the dilemma of the defendants who are being solicited for funds for the return to office of the administration that has attacked them?

There can be no doubt that the solicitor of the Post Office Department wants both votes and money from the indicted oil men for the prosecution of the Democratic campaign. Report is that this solicitor has recently been in the southwest unsuccessfully soliciting the oil companies. Report also is that the New Deal campaign fund in Texas is not being viewed with the particular degree of love and affection that its managers hoped for; in fact there seems to be quite an insurrection of old time Democratic contributors of all businesses, who appear to be busy in rooms adorned with many Landon pictures. The solicitor of the Post Office Department being from Texas and releasing his statement as a communication to his old Texas friend, the New Deal's campaign manager there, one can understand he is naturally chagrined to say the least, at the thought of an empty treasury.

But how about a law officer, a representative of an administration that is trying to put a group of men behind the bars, appealing to those same men for funds and excoriating them for not contributing the money, the while a federal grand jury still sits considering some features of the alleged case?

That one is indicted, it does not always follow, in cases of this sort particularly, that one will be tried. It is common practice for the Department of Justice, in final scrutiny of cases before trial, to drop various defendants or reduce charges. What is a defendant to think when, in this interim between indictment and trial, the lawyer head of the department recognized for generations as the political power of the national administration condemns in strong and untruthful language the failure of the defendants to contribute?

With a U. S. marshal holding your arm and shoving you toward a penitentiary, what would you think of a representative of the same administration employing the marshal who would approach you from the other side and give you hell for not paying up to your captors for their political campaign?

Imperial Oil Leasing Stations In Quebec

TORONTO, Can., Oct. 13.—The Imperial Oil Co. Ltd. has leased out all its service stations in the province of Quebec and is retiring from the retail field in that territory completely, a company official announced today.

The leasing involved 30 stations and was completed about two weeks ago. Other Canadian oil companies are also leasing out stations, according to Imperial. It is expected that British Columbia will soon be the scene of a widespread leasing program.

It has been reported that Imperial would discontinue company operation of 80 service stations in Toronto, and that 40 of these stations had already been leased. Imperial officials termed this report "premature".

Difficulty in maintaining posted prices and under-canopy price cutting were given as reasons for the company leaving the retail business.

Indiana Marketers Announce Program

INDIANAPOLIS, Oct. 8.—With the view that "if ever there was a time when the oil business needed the benefit of the collective brains of its members . . . it is now," the Indiana Independent Petroleum Association has planned its program for the fall convention to be held at Hotel Severin here, Nov. 4 and 5, according to George Hofmayer, executive secretary.

The Iowa Plan, the Robinson-Patman fair trade or price discrimination law, service demands of new automobiles and taxation as it applies to the oil industry, are the subjects that competent and well-informed speakers will talk about.

Ralph Horween, now attorney with the Western Petroleum Refiners Association and at one time assistant to Secretary Ickes in the administration of the oil code, will discuss the Robinson-Patman act and its relationship to the oil jobber's business.

Carl Barker, manager of the public relations department of Shell Petroleum Corp., St. Louis, will describe his type of work, stressing taxation.

A. H. Frost, automotive engineer with the Socony-Vacuum Oil Co. at Detroit, will deal with the service demands of the new automobiles, describing the new automotive units, the correct lubricants and particular service they require.

The Iowa plan will be discussed by E. L. Barringer, on the editorial staff of NATIONAL PETROLEUM NEWS.

Aside from pump globes, cans, and other small oil accessories forming the luncheon and banquet table decorative motif, there will be no exhibits. A. L. Stallings, chairman of the entertainment committee is in charge of the entertainment to follow the banquet.

Status of Supervisor Under Security Act

WASHINGTON, Oct. 11.—A supervisor with the power to hire and discharge individuals working under him, and who pays them out of his own remuneration, is still not an "employer" under the unemployment-compensation provisions of the Social Security law, according to an Internal Revenue Bureau ruling.

Such a supervisor, on the contrary, is an "employe," like all those working for him, of the person who owns and conducts the business, the IRB held.

There may be some analogy between this case and that of a "commission agent" who operates a bulk plant for an oil company and pays his helpers out of his gross commission.

Text of the ruling (S.S.T. 35) follows:

"Advice is requested whether, for the purpose of the tax imposed by section 901, Title IX of the Social Security Act, certain individuals should be treated as the employees of A under the circumstances stated herein.

"A has several places of business in all of which the same type of business is conducted. In charge of each place of business, the taxpayer has a supervisor who hires and discharges employees for that particular location. All of the equipment is owned by the taxpayer. To each supervisor the taxpayer pays a certain sum each week, which includes the supervisor's remuneration and that of the employees hired by him. Separate bookkeeping accounts as to the pay roll are not kept for each establishment.

"It is held that for the purposes of the tax imposed by section 901, Title IX of the Social Security Act, the supervisors and the individuals working in each establishment are employees of A, who owns and conducts the business."

Ickes' Comment on Oil Pact is Challenged

TULSA, Oct. 8.—The outburst of Secretary Ickes last week concerning the Interstate Compact drew the fire of Gov. Marland, of Oklahoma. The Secretary of the Interior got into the newspaper as saying he agreed with Gov. Landon that the interstate oil compact was a "dead horse." Said the governor of Oklahoma:

"When I was in Des Moines at a luncheon with the President and governors attending the drouth conference, the President, addressing me, asked: 'Well, how is the oil states compact idea working out?'

"I said, 'Mr. President, that is my baby and I would rather that you asked Gov. Landon what he thought of it. Gov. Landon's answer was pretty much like this:

" 'Mr. President, I was not originally in favor of the oil states compact. But we got into it and I now believe that the present good condition of the oil industry is due to the efforts of the compact.' "

Commented Marland: "I think Secretary Ickes used a statement Landon made two years ago at a time he was not in favor of the compact."

TULSA, Oct. 7.—The Leflore County Gas Co., Poteau, Okla., will build 25 miles of 8-inch welded gas line. The terminals will be Redoak, Okla., and a point ten miles northeast of Poteau. Construction starts about Oct. 20 and will be done by the owners.

SPECIFICATIONS

(*Concluded from page* 12)

shipment in interstate commerce of "gasoline" not meeting certain minimum specifications.

Later, the conference adopted a resolution in which it agreed to sponsor "a move to have specifications made covering motor fuels moving between States and Provinces (of Canada)." The conference also agreed to sponsor a "movement with the view of requiring specifications on transport equipment handling and moving inflammable liquids in interstate commerce."

No mention was made in the resolution of seeking federal legislation or regulations by the ICC under the motor carrier act which would be necessary to accomplish these purposes.

E. L. Cleaveland, of Socony-Vacuum Oil Co., suggested to the conference that the requirement of bonds equal to two or three months total gasoline taxes, as is the case in some states, is a burden on the big companies operating in a number of states. He pointed out that the property of these companies in each state is worth much more than the amount of tax involved and asked if there were not some way that such companies could be relieved of this burden.

C. C. Brown, of Oklahoma, said his state saw no reason for increasing the $10,000 bond limit. Andrews said a bond of $50,000, or even $100,000, might be needed in states like Tennessee because of "marginal dealers." A. F. Hotchkiss, of Kansas, retiring president of the gasoline tax conference, said a good lien law which could be quickly invoked with the right to sell under execution and a 5-day license-suspension clause for delinquents was about all that is needed.

The prevailing sentiment, however, seemed to be in favor of requiring government bonds or surety company bonds as against personal bonds.

Arthur Pugh, of Wisconsin, said he saw no reason for treating the major oil companies any differently from the smaller companies in the matter of bonds.

The conference elected as its new president C. F. Joyner, Jr., of the Virginia motor vehicle division; vice-president, Arthur Pugh, of Wisconsin; and treasurer, Walter F. Reddy, of Michigan.

A resolution was adopted urging a uniform policy be adopted for handling Form 1094, which the federal comptroller general has issued for tax exemptions on sales to the federal government.

This resolution, as reported to the conference, also contained a clause urging that the states accept Form 1094 only when delivery is made into government-owned storage or into the fuel tank of a motor vehicle bearing license plates of the U. S. Government.

On the objection of Frank G. Driscoll, attorney for Sinclair Refining Co., the whole paragraph was stricken out. Driscoll pointed out that many cars engaged in official, federal business do not carry government plates.

The resolution also urged states whose legislative policies do not support the conference's stand against no exemptions, to use the refund system because of its greater efficiency. Preregistration of all internal-combustion engines consuming motor fuel subject to a tax refund was also urged.

Three days of sightseeing, banquets, dances, parties, movies, and other entertainment provided by state officials and oil companies convinced the delegates and visitors that "Virginia hospitality" is no idle boast. The final day of the conference was devoted to a conducted tour of historic Williamsburg, the colonial capital of Virginia, which has been restored with funds provided by John D. Rockefeller, Jr.

Special Notice to Subscribers

● **A firm entitled J. J. Berliner & Staff, calling themselves "A National Research Service," of 1123 Broadway, New York, are offering for sale mimeographed pamphlets entitled, "Successful Selling Methods of Petroleum Products," in which they use liberally copyrighted articles from NATIONAL PETROLEUM NEWS. This use is without our permission and Berliner & Staff have been so notified. Further than this misuse of our material, we know nothing about them.**

Talks on Iowa Plan Added to Program

WASHINGTON, Oct. 12.—All signs indicate the oil jobber's well-known desire for lively discussion at his conventions will be fulfilled at the coming meeting in Chicago of th National Oil Marketers Association.

Not only are there several highly controversial topics on the program, but full, open debate from the floor has been promised. Perhaps, it is the prospect of hearing or joining in a good, old-fashioned argument which explains the large indicated attendance of jobbers.

The annual convention and trade exhibit of the NOMA opens Oct. 27 and continues through Oct. 29 at the Stevens Hotel, Chicago.

As if the proposed oil marketing code and the grand jury antitrust investigation at Madison, Wis., were not sufficiently controversial to provoke discussion, Paul E. Hadlick, NOMA secretary, announces that a special session has been scheduled on the so-called Iowa plan.

Three speakers will give the pros and cons about this plan of marketing through leased stations and then the discussion will be thrown open to the floor for jobbers individually to air their views.

Harry Fee, of Waterloo, Ia., past president of the Iowa Petroleum Association will preside at this special session, Oct. 28.

The first address will be entitled "How the Iowa Plan Started," and will be given by Henry E. Wormhoudt, Cushman-Wilson Oil Co., Des Moines. Broader aspects of the new marketing plan will then be dis-

cussed by E. L. Barringer, Chicago, staff writer for NATIONAL PETROLEUM NEWS, whose topic will be "How the Iowa Plan Came Into General Operation." Finally, Charles Rohr, of Log Cabin Oil Co., Mason City, Iowa, will speak on "How the Iowa Plan is Working Out In Iowa."

Another address announced for the program is that of G. Denny Moore, New York, managing director of the Gasoline Pump Manufacturers Association, who will speak on "The Jobber's Opportunity in Merchandising." He will outline a program for the jobber to assist his dealers in developing modern merchandising at their service stations.

Two new names have been added to the list of firms supplying the jobber which will exhibit at the NOMA convention. They are S. F. Bowser & Co., Inc., of Fort Wayne, Ind., pump manufacturers, and Globe-Union Inc., Milwaukee, battery manufacturers.

Every Third Car in Station Is A "Tax-Hitch-Hiker"

TERRE HAUTE, Ind., Oct. 12

INITIAL steps to obtain public support in a movement to lower motorists taxes were taken here Oct. 2, when several hundred citizens attended a mass meeting of the Vigo County Motorists Tax Relief Association.

Motorists joining the association are asked to sign pledge cards calling for reduction of gasoline and motor vehicle taxes and the elimination of diversion of these taxes for other than highway purposes. Already Vigo county has signed up 3300 members and has set a goal of 10,000. The movement is also spreading into Marion and Lake counties.

The meeting was sponsored by the Indiana Petroleum Industries Committee, and had as its principal speaker Fred A. Eldean, assistant to the president of the American Petroleum Institute. His subject was "Is It True What They Say About Taxes?"

Eldean based much of his talk on the recently published census figures for 13 states, taking an "average" service station from these states and describing how taxes affected it.

Eldean explained that, according to these census figures, out of every $1.43 which the service station receives there is only one dollar of revenue for the station. The remainder, or 43 cents, is taken by the government for taxes. Putting it another way, Eldean said that roughly one-third of the service station gross income goes to taxes.

"If you compare what the government takes with your net revenue, the percentage would be even more astounding," he said.

"Every third car which drives into your station is a free car," said Eldean, looking at the t burden from another angle. He pointed out that all the money spent to service this "tax-hitch-hiker" car, to supply it with fuel, oil and water, and all the labor, goes to the government for taxes.

"One-third of your time you are working as a tax collector," he said. "Every third day you ought to doff your uniform and don the badge of a tax collector. For example, on Wednesday you might say to yourself; 'Today I am working as a tax collector for the government.' Then on Saturday say; 'This is tax collection day again. They certainly come around often.' Or take your calendar and draw a circle around every third day. It is a blank, a goose egg, a wash-out as far as you are concerned, for it is the tax day."

Eldean then pointed out that, in a little over three years, petroleum marketing pays enough taxes to buy its facilities over again "lock, stock, and barrel." Based on the oil industry's total tax bill of last year, he showed that the average tax load is about $1222 per employe for the year, compared to an estimated tax load of $250 for the average gainfully employed worker in general.

In addition to the many indirect ways in which the tax burden on petroleum products is felt, it is the motorist who directly feels the heavy burden, said Eldean. "Since he must pay a third of his expenditure at service stations in Texas, every third mile he drives is a tax-mile. If the speedometer on his car would only click 'Tax-Tax-Tax' every third mile, I dare say it would not be long before he would rise up in revolt, as did the highway user years ago against the evils of the toll-road system."

Speaking of gasoline tax diversion, Eldean made the following comment. "Schools, parks, employment relief, advertising, pensions, and general governmental expenses may be worthy objectives, but it is a case of ethics as to whether trusteed road funds should be spent upon these. We do not deduct from the funds financing those purposes to provide funds for roads. We should not expect the motorist taxpayer to rob himself of highways to finance these other projects. In other words, these other projects are of general benefit and the financial responsibility should be that of all the citizens."

Eldean pointed to some striking examples of what is being done to combat the excessive tax burden on petroleum products. He turned to New York state where motorists began to realize that they were paying millions in motor taxes which were being used for other than highway purposes. They made their disapproval of the four-cent state tax so loud and so consistently that the state reduced its tax to three cents.

Eldean pointed to a number of other states, including Mississippi, Alabama, Pennsylvania, Rhode Island, New Hampshire, Missouri, Florida, Minnesota, and Colorado, where motorist taxpayers have been successful in combatting tax burdens in cities, counties and states.

"In virtually every state motorist taxpayers working together have defeated or repealed numerous taxes, ordinances, and other regulations which they deemed unfair," concluded Eldean.

Specifications for E. P. Lubes Are Urged by Grease Makers

By ARCH L. FOSTER
N. P. N. Technical Editor

By Teletype
CHICAGO, Oct. 13

NECESSITY for specifications for extreme pressure lubricants required by the 1937 model cars was emphasized here today by the National Association of Lubricating Grease Manufacturers, in its fourth annual meeting.

Without some sort of specifications, some yardstick by which the composition and qualities of an E.P. lubricant may be measured, and without a common standard machine or test by which these qualities may be gaged, the lubricant makers are well nigh helpless, the members of the association indicated.

Few, if any of the extreme pressure lubricants now available in service stations are capable of properly servicing the new models which require the strong or corrosive type of E.P. lubricants, stated C. M. Larson, supervising engineer for Sinclair Refining Co.

Several speakers took issue with this statement, claiming that the products prepared or sold by their companies have already proved to be entirely satisfactory for the severe E.P. requirements of any mechanism to be placed on the market by automotive manufacturers.

That the new type of hypoid gear, as used in some 1937 models for the first time, will give many a headache to both lubricant and car manufacturers before the problem is finally solved, appeared to be the concensus of opinion of the meeting.

Empirical and service tests are the only methods for determining the suitability of a lubricant for extreme pressure service now available, it appears. The SAE machine still has far to go before it can be used with certainty by the industry to classify or rate E.P. lubricants, in the opinion of many speakers before the meeting.

Stability in storage and in service is still one of the major requirements for lubricating greases, and a bomb test for quick determination of storage stability has been developed by the Norma-Hoffman Bearings Corp. The test research sponsored by this company at Pennsylvania State College and continued in the company's laboratory has resulted in a method by which the storage life of soda-base greases may be predicted, according to F. L. Wright and W. A. Lutz, who discussed the test in a paper before the meeting.

This test consists essentially of a bomb fitted with an accurate pressure gage, heated under specified conditions (175 F. and 110 pounds oxygen pressure), in an oil bath. This test will show a breakdown in a grease in from one to 20 days, the authors stated. Although no absolute relationship between long time storage stability and the results of this test have been established, the authors stated that the normal oxidation rate in storage has been accelerated from 50 to 100 times in the test. The test offers a reasonably accurate method for testing uniformity between batches of grease bought, they stated.

A test machine has been developed by Sub-Committee on Lubricants, Bearing Engineers Committee, of the grease manufacturers' association, under H. R. Reynolds as chairman. It is referred to as the B. E. C. grease testing machine and employs the principle of working a sample—1¼ cubic inches—of a grease in a medium sized bearing at moderate speed at various temperatures. The test does not indicate the lubricating value of the grease, but does give definite information regarding starting and running torque, change in consistency, oil separation and leakage past the bearing seal, this last being a problem which has given much trouble to grease users in several industries, Mr. Reynolds stated. The sub-committee has also developed a small penetrometer for determining the consistency, or body, of a grease before and after working, which machine appears to be rather a small edition of the A.S.T.M. machine and requiring a smaller sample for testing.

Manufacturers of grease components have studied intensively a large number of materials, natural and synthetic, which are suitable for making E.P. and other greases. The nitriles—C-N compounds—of fatty acids seem to offer good possibilities for making needed lubricants in the E.P. field, A. W. Ralston, of Armour & Co. stated. These compounds are noncorrosive and stable and tests indicate they can carry extreme pressure loads with less temperature rise than most of the commercial E.P. lubricants now on the market, he stated. Aromatic-aliphatic ketones also possess distinctive E.P. properties, and are soluble in oils. It is desirable to prepare by synthesis or otherwise organic sulfur compounds of many types and to determine their suitability for E.P. purposes, Mr. Ralston believes.

A further discussion of extreme pressure lubricants for the hypoid gears of the new model cars, listing the names of the cars, the 1937 models of which will be equipped with hypoid gears, is to be found on p. 53 of this issue.

Launch New Tanker

NEW YORK, Oct. 9.—The Pan American Petroleum and Transport Co.'s new tanker, Pan-Maine, was launched today at the yards of the Federal Shipbuilding and Dry Dock Co., Kearny, N. J. The vessel, of 12,600 gross tons, is one of two sister ships that the company has under construction at the Federal yards.

Mrs. Robert E. Wilson, wife of Dr. Robert E. Wilson, christened the boat.

Research Plan Approved on Road Oil, Asphalt Characteristics

TULSA, Oct. 10

A RENEWED and this time apparently a more concerted effort is to be made by two groups, one of road oil and asphalt producers and the other of users of those materials, to initiate a research program designed to correlate the chemical and physical properties of bituminous road materials into standard specifications for the pre-construction determination of road service behavior.

This two-group step became virtually assured at the closing session of the Fifth Annual Road Oil & Asphalt Congress here Oct. 8 and 9. Producers of road oil and asphalt who annually sponsor this gathering of refinery technicians and highway engineers adopted unanimously a resolution endorsing plans to this end which already had been approved by the road builders at the Second Annual Montana Bituminous Conference.*

Their action was, in effect, a declaration of their willingness to lead the way in underwriting a research program outlined by the road builders. Details of the proposed program are to be worked out by representatives of the two groups.

This present lack of knowledge of the behavior of bituminous road materials under various conditions cropped out with persistent regularity, both in the papers given and also in the round-table discussions. Many apparently could cite their experiences with road materials but few if any could say with certainty that their results from the use of these road materials would be the same in other instances. What these proposed specifications should be, therefore, no one would venture more than a general opinion.

The search for better specifications was not an indictment, however, of the quality of product now being turned out by the conscientious manufacturer. In fact more than one speaker declared in no uncertain terms that the manufacturer who considers road oil and asphalt as one of his major products now is turning out material that really leaves little to be desired.

The manufacturer who looks upon the road oil and asphalt market as an easy means of disposing of his residuum, and who resorts to high-pressure salesmanship, came in for severe criticism by more than one speaker, however.

The most persistent criticism, however, came from H. S. Gillette, materials engineer for the U. S. Bureau of Public Roads, in Arkansas, Louisiana, Oklahoma and Texas. The first day's session had scarcely gotten under way before he was urging those present to consider seriously tightening up the specifications to exclude unsatisfactory materials foisted on uninformed and novice road builders by a certain type of salesmanship, "back stairs selling," he called it.

In his talk on "Some Problems of Bituminous Construction in 1936," Mr. Gillette defended the conscientious asphalt manufacturer. He declared that the first need was materials of unquestioned quality and that, as far as these conscientious manufacturers were concerned, the road builders were now getting that quality of product. The trouble with some of the road failures, he added, has been due not to the product itself but to the wrong kind of advice about the application of the products.

"When a greater and more simple undertaking of asphalt and asphaltic construction is set up for the American public in general," Mr. Gillette said, "and for a great many engineers in particular, much of the failure in asphalt construction and resistance to asphalt construction will have been eliminated.

"The crying need is factual advice to purchasers in the highway field."

There is also another "crying need" in road building with bituminous materials, judging from the statements of several of the speakers. That is for closer and more detailed attention to the base and sub-base of bituminous roads. Many failures of asphaltic roads to stand up, it was declared, could be traced directly to the failure of the base and sub-base and while innocent of the failure, the bituminous material was given the blame by the public.

In the discussion of the paper, "Development of Bituminous Surfaces in Kansas," by L. L. Marsh, assistant maintenance engineer for that state, the question was raised as to whether or not some of the first failures of asphaltic roads in Kansas had not been due to poor base construction, and in others to the failure to provide adequate drainage.

"THE demand for oiled roads was so heavy and the pressure from some quarters so great," Mr. Marsh replied, "that some of our roads were treated when that step should never have been undertaken without more attention given to base and drainage. Some of the roads treated had little or no base. Some were little more than canals and should never have been treated, without first raising the roadbed and providing adequate drainage."

Mr. Marsh outlined frankly in his paper the work that has been going on in Kansas the past six years, and summed up conditions there as follows:

"The maintenance of bituminous surfaces has become an important problem within the last five years. The rapid increase of oiled surface mileage has made special equipment necessary as well as trained personnel. At present the State Highway Department is maintaining 2075.2 miles of bituminous mat surface; 1203.4 miles of oil penetration surface and 31.0 miles of earth penetration. The average cost per mile per year of all bituminous mat surfaces regardless of traffic volume is $387.76 . . . of oil penetration surfaces . . . $469.47. Some of the bituminous surfaces

*National Petroleum News, Sept. 16, 1936, page 24-A.

in the oil fields . . . carry as much as 3035 vehicles per day and much of this is heavy truck traffic. . . .

"Looking back over a six-year period of bituminous construction and maintenance in Kansas we might make the following observations:

"Mat construction of 350 cubic yards per mile has been unsatisfactory from a maintenance standpoint.

"Earth penetration has been discontinued except as a temporary expedient to serve traffic.

"Oil penetration construction is suitable on a drained and stable subgrade carryng up to 600 vehicles per day.

"Thick mat, dense graded aggregate type construction is suitable on stable drained subgrades, particularly in western Kansas, where sandgravel is available.

Another speaker who devoted considerable time to the discussion of the road base was R. C Chappler. geologist, for the Missouri Highway Department.

"The first oil mats," Mr. Shappler said, "were constructed in the Ozark section of the state on oil existing gravel roads. The success of these first efforts could probably be ascribed to the presence of a thick and compact base. This was more or less of a coincidence because expansion of the program soon demonstrated what is now well known—that a successful gravel surface does not necessarily guarantee sufficient base support for an oil mat."

The present practice in Missouri, Mr. Shappler explained, was to make a detailed condition survey, and any recommendations as to work to be done on the base are carried out.

At the first session of the Congress Leroy M. Law, chief chemist for Shell Petroleum Corp., read a paper in which many delegates declared was the most concise complete history of asphalt in the paving industry they had ever heard. Fred G. Allison, chief chemist for the Arkansas Highway Department, described certain physical phenomena he had observed in connection with the use of various liquid asphaltic road materials.

Approximately 150 delegates were registered for the Congress, with 10 states being represented.

How Montana Constructs Bituminous Highways

TULSA, Oct. 8

HOW Montana constructs its bituminous type highways was outlined, before the road oil and asphalt congress here, by E. B. Donohue, assistant state highway engineer. He stated he believed the use of bituminous surfaces was most practical in other states where traffic and population conditions were similar to those in Montana. In his remarks he stated in part:

"At the present time in Montana we have 4600 miles of improved roads on our state highway system, 4000 miles of which have a bituminous surface. The bituminous surface treatment or penetration type oiling is most commonly used. This type is more or less of a dust pallative, using however heavier oils or cut-backs than are commonly used in dust pallative work. We use this type principally on our older gravel roads pending reconstruction and on our newer gravel roads where traffic is not heavy.

"The method of construction is quite simple, consisting first of blading and shaping the roadway, after graveling, to the desired cross-section, compacting the gravel and sweeping to secure a clean mosaic surface. Our practice is to apply an MC-1 (medium curing) or an SC-2 (slow-curing) to this surface at the rate of approximately one-third gallon per square yard. Where the SC-2 is used it is covered immediately; where the MC-1 is used no covering is required. In a few days the surface is again cleaned and an application of approximately one-third gallon per square yard of SC-4 is applied and immediately covered. This work costs us approximately $600 per mile and we have received some excellent results from it.

"The road mix type is used on our heavier traveled roads. We have used both the light mix and the standard mix. The light mix is where a mat of 1 inch to 1¼ inches of thickness is obtained, and the standard road mix has a compacted thickness of from 2½ to 3 inches.

"We had one project of slightly more than 700 miles of the light mix, the longest contract being approximately 100 miles, and it is our understanding that this is the largest single oiling project ever undertaken by any state. In doing this work we attempted to stabilize the base as far as possible. The cost of the light mix, including the base stabilization was about $3000 per mile average for the entire 700 miles, the supplying of the aggregate and completion of the oil mat costing about $1600 per mile.

"Upon adequate base the light mix has been entirely satisfactory. The standard 2½ to 3 inch mix is used when federal funds are involved, and including the aggregate costs from $3500 to $4000 per mile. The tendency in Montana is now to use the MC type cutback for this work. We have used gravel, sand, and scoria in our mix work and results generally are excellent.

"The plant mix work is generally used in placing the highest type of bituminous surface. In our latest design we are building our sub-grades with a minimum width of 30 feet, with a 24 foot oil mat using the MC's or the RC's, (rapid curing) depending upon the available aggregate. We have used RC-3 with good results, our experiments showing that considerable fines can be used without hurting the mix in any way. All our road mix and plant mix projects are sealed. We favor the use of the paint type seal using in most cases an extra light RC-1.

"We have found cutback construction, using either MC or RC materials, gives us roads of excellent surface texture and nonskid characteristics. The only surfaces that have shown a general tendency to become unduly smooth and required an armor coat with chips instead of the cheaper paint coat, are the old road oil jobs where the SC showed a tendency to work to the surface."

Revision of Forecasting Methods Is Necessary, Texas Thinks

By LAWRENCE E. SMITH
N. P. N. Staff Writer

TULSA, Oct. 10

LONG-RANGE forecasting of the demand for crude is the suggestion made by Col. Ernest O. Thompson, chairman of the Texas Railroad Commission, to enable state regulatory bodies to determine and fix with more exactitude the allowable production of their prorated fields.

He suggested six-month "look aheads" and acting on his own recipe, he has asked purchasers of crude oil in Texas to submit estimates of their requirements for that period, subject to revision monthly. The statewide hearing Oct. 19 will be open to submission of such estimates, although it is believed not all purchasers will be prepared to turn in their figures.

Col. Thompson, now chairman of the Interstate Compact Commission, has also requested compacting states to send a representative each to Washington for conference Oct. 10 with economists of the U. S. Bureau of Mines. He thought the bureau might be induced to put a new ring gear in its forecasting machine, predict six months instead of one, and revise its estimates each 30 days. Also, he thought the bureau needed another new part of some kind in its machine, perhaps the clutch was slipping; he believed its estimates were far too low.

The Texas Railroad Commission, it will be remembered, showed its belief that Bureau estimates were too low by setting an allowable for October 73,000 barrels daily higher than the bureau had recommended. The commission has seldom agreed with the bureau but usually has been nearer agreement than in October.

Bureau figures are merely recommendations. Oklahoma and Kansas follow them to the barrel in most months; the commissions of those states discounted the figures by five per cent last June, when it appeared that too much crude was being produced for the good of the market.

Col. Thompson makes the point the federal estimates were too low, else stocks would not have been drawn upon as heavily as they were. The bureau, of course, contemplates withdrawals from stocks each month and allows for this. But its production quotas, or recommendations, have been exceeded every month without fail for more than two years and drafts on stocks have continued also. The drafts would have been much greater, obviously, had actual production matched the bureau's estimates.

The decline in stocks is noteworthy. An accompanying table shows the figures by districts as reported by the Bureau of Mines on a weekly basis. A late report, as of Sept. 26, gives total domestic and foreign crude held in the U. S. as 294,568,000 barrels, including estimate of 16,300,000 barrels for unreported stocks.

THIS is a drop of 70,471,000 barrels from the figure reported by the bureau on Oct. 7, 1933, when the first of the weekly reports was made, disregarding the estimate of unreported stocks necessary to put the figures on a comparable basis, as this estimate was not included in the first report made. On the same basis, the decrease the past year was 29,051,000 barrels and since Dec. 28, 1935, the withdrawals amounted to 18,783,000 barrels — still not giving effect to unreported stocks.

Drafts on stocks since the first of January, last, have been nearly 70,000 barrels daily.

With stocks at their lowest level in three years, assertions are made that crude oil in storage is near or at proper economic level and that more of the demand should be allotted to current production. This theory is among the reasons advanced by the Texas Railroad Commission for making such a big jump over the Bureau of Mines recommendations for October.

There are exceptions to the statement that the Texas commission has set allowables in excess of the Bureau estimates, but that has been the case in most months. This time last year, for instance, the commission was making its own findings as to allowables. Nationally, it was rather a sorry job of performing, according to the bureau estimates and that has generally been the case ever since September, 1933, when the

Crude Stocks in the United States, 1933 to 1936

(*Figures in Thousands of Barrels*)

Grade	Sept. 26, 1936	Sept. 14, 1935	Sept. 15, 1934	Oct. 7, 1933
Penna. grade	4,100	4,871	4,723	5,461
Other Appalachian	677	904	1,124	1,026
Lima-N. E. Indiana-Michigan	1,094	1,049	1,356	1,326
Illinois-S.W. Indiana	9,982	11,421	11,448	10,896
N. Louisiana and Arkansas	10,660	10,619	10,338	12,479
West Texas and S. E. New Mexico	28,999	30,384	29,480	33,057
East Texas	19,679	24,699	35,520	48,003
Other Mid-Continent	117,678	137,106	157,179	152,764
Gulf Coast	27,462	24,636	18,094	17,439
Rocky Mountains	25,680	27,078	27,697	27,384
California	30,244	30,330	33,675	36,026
Foreign	2,013	3,862	2,780	2,878
*Total including Foreign	278,268	307,319	333,414	348,739

**From Bureau of Mines weekly reports; does not include estimates for unreported stocks or producers' stocks (which were estimated at a total of 16,375,000 on Sept. 12, 1936.)*

Quota on Daily Production for Texas as Set by the U. S. Bureau of Mines, Compared with the Allowable Set by The Texas Railroad Commission and Also with Actual Production

(Figures in Barrels Daily)

	Mines Bureau Quota	Texas Commission Allowable	Actual Production
Sept., 1935	1,059,900	1,045,425	1,068,800
Oct., 1935	1,025,500	1,044,391	1,023,468
Nov., 1935	1,027,600	1,085,275	1,094,400
Dec., 1935	1,005,800	1,092,716	1,094,100
Jan., 1936	1,017,200	1,058,000	1,066,400
Feb., 1936	1,068,300	1,104,034	1,124,100
March, 1936	1,104,000	1,145,903	1,143,700
April, 1936	1,122,800	1,189,276	1,187,600
May, 1936	1,132,500	1,187,421	1,188,000
June, 1936	1,125,700	1,170,827	1,178,700
July, 1936	1,146,500	1,170,456	1,158,700
August, 1936	1,154,700	1,191,408	1,204,500

first recommendations came out of Washington. Production has always exceeded the Washington estimates, no matter what kind of orders were written by the state commissions. It is one thing to set down on paper — in the form of official orders — what the producers are to do for 30 days but it is another story entirely when the barrels are counted.

For the last three months of 1935, the excess of actual production over the Bureau of Mines previous recommendations for demand was as follows, for the entire country: October. 289,700 barrels daily; November, 318,000 barrels daily; December, 321,000 barrels daily.

Despite the excess production for that period, which is singled out because it is traditionally the one in which consumption languishes and the brakes are supposed to be applied to production, stocks were drawn upon, both in crude and in total stocks of all oils. The Bureau of Mines figures on this phase of the situation are as follows:

	Crude Stocks Barrels	Stocks All Oils Barrels
Oct. 31, 1935	317,155,000	546,855,000
Nov. 30, 1935	315,558,000	545,186,000
Dec. 31, 1935	314,631,000	541,700,000

This happened despite normal imports, which totalled 2,477,000 barrels in October; 2,242,000 barrels in November and 3,336,000 barrels in December.

There has been considerable exclaiming over the fact Texas has consistently set its allowables higher than the Bureau of Mines thought the market demand to be. The Interstate Compact Commission recently compiled figures on allowables and actual production and showed Texas had overproduced 4.5 per cent over the 11 months, Sept., 1935-July, 1936. But that was an excess over the bureau's recommendations, not the state allowables. Bureau figures on production show that the state came fairly close to the actual allowables set. The figures are given in an accompanying table.

It, therefore, depends on how you look at it. Texas production has come close to the state's own allowable but has been substantially above the bureau recommendations. Oklahoma, which matches the bureau quotas to the barrel, has consistently overproduced.

Six Months Forecasts Asked of Bureau

WASHINGTON, Oct. 12.—There is not much hope the Bureau of Mines will make six months forecasts, revised and extended each month, of demand for crude from the various states, as was requested Oct. 10 by Col. E. O. Thompson, chairman of the Texas Railroad Commission and also head of the Interstate Oil Compact Commission.

About the most that the Bureau of Mines will do, it is believed, will be to set a national total for the next six months. However, the bureau is none too willing to do that because of diminishing accuracy in long-range forecasts.

Col. Thompson left for home today. Other representatives of oil producing states participating in the Oct. 10 conference were Marvin Lee, Kansas; C. C. Brown, Oklahoma; and A. H. Bell, Illinois. Besides Bureau of Mines officials, G. W. Holland, director, and E. B. Swanson, associate director, of the Interior Department's petroleum conservation division, were present.

Texas Anti-Trust Suit Is Revived

TULSA, Oct. 8.—The ghost that will not be downed, "Jimmy" Allred's famous suit against the oil companies, which began in 1931, stalks again. The Supreme Court of Texas gave permission to reopen the case, specifying Oct. 28 as the date for submittal.

Allred, now governor of Texas, started this suit on the theory that major oil companies under the Voluntary Code of Fair Competition had violated the anti-trust laws of Texas. That code, as many have forgotten, was sponsored by the American Petroleum Institute and was given as much approval by the Federal Trade Commission as that body ever gives anything. Allred was then attorney general of Texas. He hit in this suit at several oil marketing practices but exclusive dealer contracts was the most prominent.

Fifteen oil companies and two trade associations were named defendants. There was much fiddling around, taking depositions, and holding hearings before a commissioner appointed by the district court. The case was never tried. The district judge in 1934 sustained a demurrer and dismissed the whole thing. He held that the NRA code had come along and removed the cause of action. Later, on appeal, the court of civil appeals at Austin sustained the dismissal, but for a different reason. It held that the Texas anti-trust law was unconstitutional. It is the latter point that will be tried out in the state supreme court.

Wider Spacing of Wells Sought On Behalf of Small Producer

By LAWRENCE E. SMITH
N. P. N. Staff Writer

TULSA, Oct. 10

DENSITY of wells in the East Texas field is now one to each six acres. Major companies have one well to each 6.98 acres and independent operators have a well to each 4.75 acres. Included in the total of 21,503 wells in that field on Oct. 5 was many a well on one acre or less.

In the Oklahoma City "mansion area," where the derricks surround the state capitol and cast their shadows over the governor's home, there will ultimately be an average of one well to five acres or less.

It is to such extreme examples and to the rapid rate of development in many other pools that the Independent Petroleum Association of America has begun to call attention. This association of oil producers probably will provoke much discussion on this subject in coming weeks. Charles F. Roeser, president, started it in the October number of the association's monthly publication and plans are being made to give the subject a thorough airing in the annual convention Nov. 30-Dec. 1, in Oklahoma City. It is fairly certain that Mr. Roeser, also a director of the American Petroleum Institute, will present the theme to the institute's directors when they meet in Chicago in November.

This is Mr. Roeser's thought, as published in the Independent association's magazine:

"Many fields now developed could produce their full allowable with fewer wells. Often the additional and unnecessary wells have represented additional burdens that have wrecked many men in the industry.

"We know the amount of oil necessary to meet our demand. We can apportion this demand to fields and wells. When the demand figure does not increase, but the number of wells does increase, there is but one answer—less allowable per well. If the number of wells decreases and the demand remains even, the result is increased per well allowable.

"Decrease of per well allowable means longer payout. Longer payout means more borrowing of capital. Only a few well financed and larger units can afford to plan for returns so small and slow. . . ."

The program on which the association has thus started discussion, of course, will have to be voluntary in the industry. No authority to restrict drilling except to prescribe spacing rules

Comparative Figures on Wells Completed, 1935 and 1936

(Figures inclusive to Oct. 5 for each year)

	Oil Wells		Initial Production		Gas Wells		Initial Production (Gas-M. cu. ft.)		Dry Holes	
	1936	1935	1936	1935	1936	1935	1936	1935	1936	1935
S. Arkansas	15	3	3,700	640	2	....	270,000	.....	43	9
Colorado	7	7	222	7,047	....	....	.....	.....	9	1
Kansas:										
Eastern	357	366	236,840	330,177	15	15	133,114	127,550	172	143
Western	519	308	637,864	313,641	30	12	408,259	193,850	164	108
Total Kansas	876	674	874,704	643,818	45	27	541,393	321,400	336	251
North Louisiana	316	14	266,721	26,405	102	10	884,767	227,669	80	15
Louisiana Gulf Coast	212	*.....	132,005	.....	5	....	5,301	.....	127	.....
Total Louisiana	528	.....	398,726	.....	107	....	890,068	.....	207	.....
Montana	121	99	12,345	10,805	14	9	56,729	54,411	44	34
New Mexico	390	181	503,616	394,863	12	6	187,701	78,588	46	56
Oklahoma:										
North and Northeast	282	323	357,999	165,913	24	9	103,424	57,095	108	127
Central and West	218	145	1,845,062	351,540	6	14	176,383	127,271	53	125
Greater Seminole & Southern	939	604	1,045,161	1,495,723	64	70	395,628	735,042	372	292
Total Oklahoma	1,439	1,072	3,248,222	2,013,176	94	93	675,435	919,398	533	544
Texas:										
North	187	.....	35,724	.....	2	....	1,050	.....	98	.....
East Texas (Outside)	261	88	122,551	27,682	15	11	456,147	30,699	118	292
East Texas Field	1,828	3,233	**.....	**.....	1	1	6,640	5,000	73	83
Gulf Coast	684	540	256,003	221,553	19	36	90,753	92,839	242	255
Southwest	1,718	722	558,834	231,014	79	55	803,564	908,700	475	427
Central	898	1,044	131,277	133,883	32	27	142,617	100,690	844	893
Panhandle	367	450	201,393	278,900	124	49	4,513,798	1,413,214	28	43
West	868	450	1,203,986	510,339	23	6	153,266	54,960	26	23
Total Texas	6,811	6,527	2,509,768	1,403,371	305	185	6,167,835	2,606,102	1,992	2,097
Wyoming	55	42	39,616	21,307	2	3	7,284	13,100	30	30

No comparable figures as of that date.* *****No East Texas initial production ratings made, as wells are tested for only short periods after completion.*

—to say how far apart wells shall be—has been provided by the legislatures of the states.

In Texas some operators have conducted a long campaign to try to get the state's Railroad Commission to prorate production on the basis of the area which a well serves. That would destroy the advantage of drilling unnecessary wells, as in East Texas, where proration is based wholly on the potential producing capacity of a well, whether it is located on one acre or 10.

This year has seen a big oil field development campaign, as the accompanying table shows. The compilation covers the producing states of the Mid-Continent, southwest and Rocky Mountain areas. To Oct. 5 this year, 6811 oil wells were drilled in Texas alone, an increase of 284 over the first 10 months of 1935. There was a big falling off in completions in the East Texas field, but increases in southwest Texas and west Texas more than made up the difference.

OKLAHOMA also showed a substantial gain in oil well completions and a gain of more than one million barrels in initial production. The increase in new production was due largely to the large wells drilled in the Oklahoma City north extension. Kansas operators completed 200 wells more this year than last, most of the increase being in the western part of the state.

This tabulation is not complete as to Louisiana. Figures on the Louisiana Gulf Coast area as of Oct. 5, 1935 were not available here and no estimate is attempted. Nor is the total figure on new initial production complete, as no records are kept in this respect on East Texas. New wells there are gauged for a short time—one or two hours—and while this kind of rating serves as a basis for proration, it is not representative of the true potential.

North Louisiana's gain in completions came in the Rodessa field, which was found in August, 1935, and by October had just gotten well under way.

State's Title Upheld to Oil, Gas On Land Sold for Taxes

LANSING, Mich., Oct. 9

MICHIGAN'S Supreme Court has upheld a conservation policy of the state's agencies which recognizes to a greater degree than in other states, as far as is known, the right of the state to take title to oil and gas and other minerals in the ground.

The court sustained a state law passed in 1909 which provided that, on land taken back by the state from private ownership because of unpaid taxes and later sold by the state, the state was to retain title to oil and gas below the surface, as well as to other minerals.

The 1909 act created a Public Domain Commission and, in specific terms, required the commission in making sales of state owned lands, to reserve the oil, gas and mineral rights, fixing its governing action relative to such sales in the following terms in the act:

"When any sales are made by and under the direction of the commission, the deeds by which said lands are conveyed shall reserve all mineral rights, coal, oil and gas rights to the state and said rights shall be owned by the state, but said commission shall have power to make contracts with private individuals or corporations for taking ore, coal, gas or oil from said lands upon a royalty basis upon such terms as to said commission may be deemed just and equitable."

The petitioners in the case contesting the 1909 act set up that, when their predecessors purchased the land from the state, they were entitled to all the rights and interests of the state to such land as the state had secured when it took in the land for unpaid taxes under the general tax act.

The court ruled, however, that when the land was purchased in the present instance, it had become a part of the public domain, removed from all tax law provisions in its retention or disposition, and had passed beyond tax law homestead provisions. "It had ceased to be open to purchase as land bid for the state at tax sales and the title thereto had come to rest in the state, to be dealt with as legislative public policy might be declared," the court declared. The history of the case is as follows:

The land in question, unoccupied and unimproved land in Ogemaw county, was sold for unpaid taxes for several years and purchased on behalf of the state by the auditor general and, not having been redeemed within the period allowed by law and found abandoned, was removed from homestead entry and sale for homestead purposes and deeded by the auditor general to the state in fee. It thereby became a part of the public domain.

IN 1911 one Lucinda Turner made application to purchase the land, stating in her application, in accordance with the terms of the 1909 act, that the oil and gas rights thereon were reserved to the state and giving to the state or its lessees, the right to enter the property to explore and develop the underground mineral resources.

There were two subsequent conveyances of the property, each giving the terms of the reservation of mineral rights to the state, the present owner Mike Krench acquiring title in 1933. The state, in January, 1934, leased its oil and gas rights to the Shell Petroleum Corp. Oil and gas were developed and the suit was filed last October.

The court differentiated between homestead land and land held open for homestead purposes and land withdrawn from such entry and sale and owned in fee by the state and later placed on the market by the state for sale by its Public Domain Commission. "The state having title in fee, could, like

any other owner in fee, deed, with reservation of the oil gas, and minerals," the court stated.

The court did not take up in its opinion general matters having to do with the conservation of oil and gas resources. The state of Michigan in general is more "conservation" minded than many states. It has an efficient Department of Conservation which for a great many years has protected the recreational facilities of the state. When oil and gas was found there a petroleum division was formed, with Dr. R. A. Smith, as State Geologist in charge at present. A proposed oil and gas conservation bill, to be introduced in the state legislature this winter, gives the state conservation department authorities much greater supervisory powers over oil and gas developments than are contained in present statutes in any other state.

A tabulation made by the Geological Survey Division of the Department of Conservation as to lands and leases affected by the supreme court decision shows 117 as the total number of leases, at present, with 37,510 acres under lease and some 800,000 acres all told in the state as subject to the court decision. The number of wells producing oil and gas on such lands now is 27. Total royalties received by the state have been $235,103; rentals have amounted to $72,790 and bonuses to $47,608 and total income to the state has been $356,388. There are about 2,000,000 acres of land all told figuring in leasing at present, the division reports.

Refinery Engineers Are Associated

CHICAGO, Oct. 12. — The Ralph M. Parsons Co., Chicago, refinery engineer and contractor, and H. A. Brassert & Co., of Chicago and London, consultants and contractors in the steel industry, are now associated.

The Parsons company, which specializes in the design and construction of Dubbs cracking units, built the $2,500,000 Wilshire refinery recently completed at Los Angeles, and plants for other western refining companies. The Brassert company has designed steel plants and steel plant equipment, including the new Corby plant in England, one of the largest in Europe, and has wide contacts in the oil industry also.

Each company keeps its own identity, management and organization, but they will work together and combine their engineering and financial resources.

S. O. Indiana Completes Leasing All Stations

CHICAGO, Oct. 9.—Standard Oil Co. of Indiana this week announced the completion of the leasing of all company service stations throughout the main states comprising the company's marketing territory.

On Oct. 9, the company withdrew company-posted prices at service stations in the metropolitan Chicago area, the only part of its midwestern territory outside the Iowa Plan. Retail gasoline marketing operations of the company in Indiana, Kansas, Missouri, Michigan, South Dakota, and Wisconsin on Sept. 11 were changed over to the dealer basis, after more than a year's experience with this type of operations in Iowa. As the company retired from the marketing end, company posted service station prices were eliminated, and in their stead prices to dealers were posted. The fluctuation of the dealer price will depend, it is understood, on the wholesale price of gasoline. Although not admitted, it is believed that a normal spread will be maintained between tank car and dealer prices.

North Dakota and Illinois, with the exception of metropolitan Chicago, were the next to be put under the Iowa plan. On Oct. 1 Standard eliminated company-posted service station prices in these two states.

With the announcement Oct. 9 that company-posted prices at service stations had been eliminated in the wide metropolitan Chicago area also came the realization of the company's stated objective, to have all company owned stations operating under the Iowa plan of marketing. However, for the purpose of computing discounts, the standard still posts a nominal service station price at company bulk plants in Chicago.

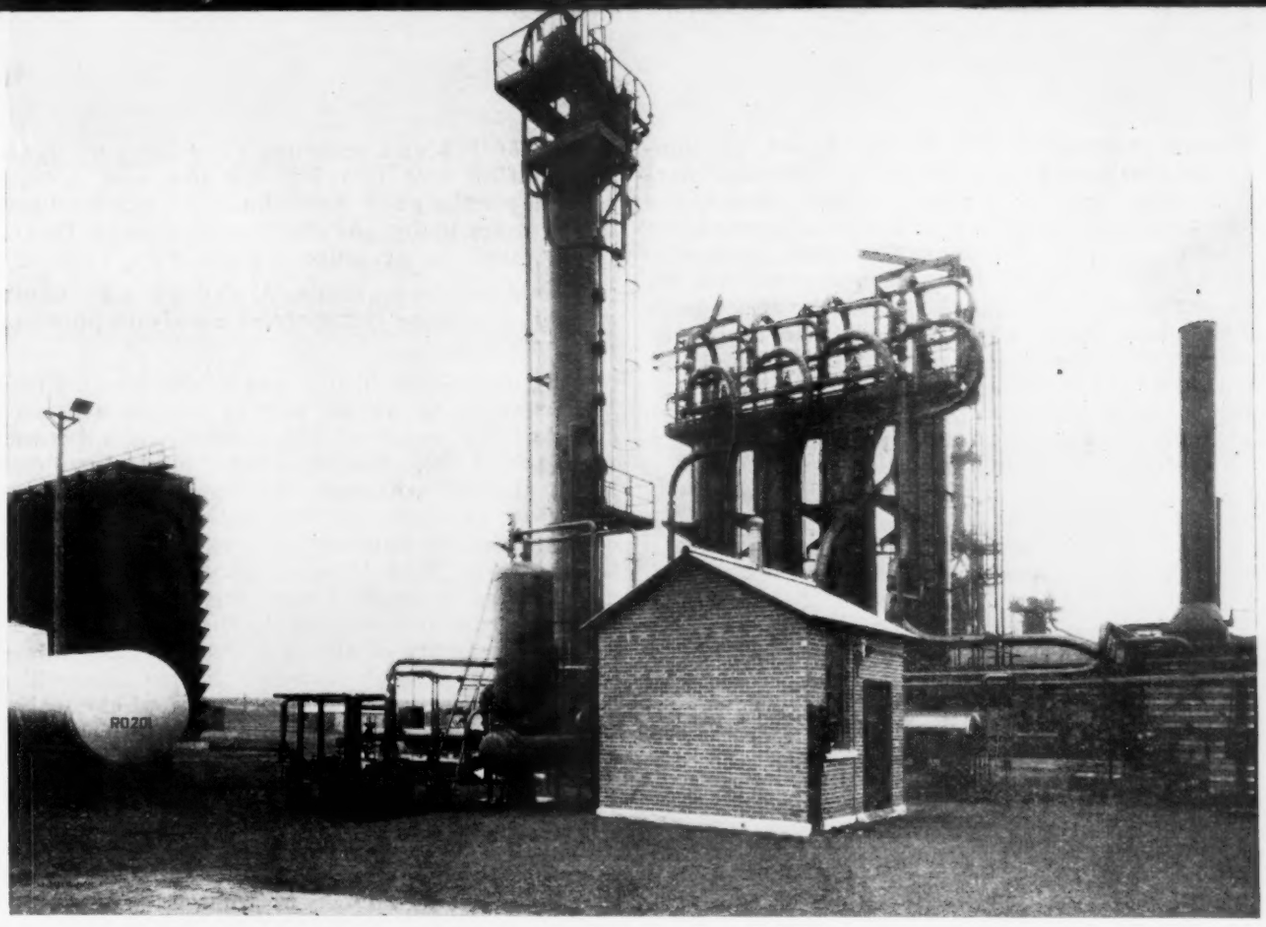
Glenn L. Werly, president of Mayflower Stations, Inc.

Heads New Station Chain in the East

NEW YORK — Glenn L. Werly, White Plains, is president of the newly formed Mayflower Stations, Inc., which has acquired approximately 40 service stations in Westchester county, N. Y., and southern Connecticut which were formerly operated by the Socony-Vacuum Oil Co.

The stations will be operated as an independent group, it was stated, but will continue to handle Socony products and will retain the present personnel.

Mr. Werly was formerly service station manager of Socony's New York city division. Parker Perry, Greenwich, Conn., is sales manager of the new company.



A catalytic polymerization plant for producing gasoline of very high octane number, in commercial operation. Its capacity is 3,000,000 cubic feet daily

Polymerization a Major Factor In Tomorrow's Super-Fuels

By GUSTAV EGLOFF*

(Presented before Manufacturing Meeting, Western Petroleum Refiners Associations, Tulsa, Oct. 13, 1936)

WITH the automobile and airplane industries producing motors with higher compression ratios and greater speeds than ever before, the oil industry has produced the gasoline making it possible for these motors to function. The octane rating or fuel efficiency of gasoline has been in advance of engine design. The cracking process has contributed to the rising octanes, not alone in the production of high antiknock gasoline but also in furnishing cracked gases which can be catalytically converted into as high as 100 octane motor fuels.

Since 1925 the top speed of automobiles has increased from 60 to over 100 miles per hour, while cruising speed of airplanes has developed from 80 to 260 miles per hour, as shown by the 9-hour and 27-minute, record-breaking California to New York flight made early this year, using 100 octane gasoline.

The catalytic polymerization process of the Universal Oil Products Co.[1] is commercially operating. There are operating and under design or construction, units to produce about 430,000 gallons of polymer gasoline per day, or at a *yearly rate of* 157,000,000 *gallons of* 80 *to* 100 *octane gasoline.*

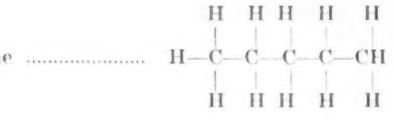
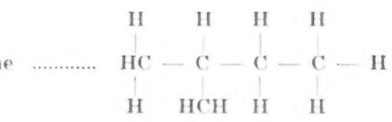
The new polymer gasolines have greater chemical uniformity than regular gasoline, since one is largely composed of olefin hydrocarbons and the other is made up of isoparaffin compounds, while regular gasoline is made up of paraffins, olefins, naphthenes, and aromatics in widely varying percentages. The oil industry is now in a position to furnish motor fuel with but few hydrocarbons present or even single hydrocarbons such as iso-octane, thus making it possible to control the combustion conditions in automotive cylinders to a greater nicety, with greater efficiency in power output and fuel economy.

It is well known that the structure of hydro-

*Director of Research, Universal Oil Products Co.

1. Ipatieff, Corson and Egloff: Ind. Eng. Chem., 27, 1077 (1935); Ipatieff and Egloff, Paper presented before the American Petroleum Institute Meeting, Tulsa, Okla., May, 1935; Nat. Pet. News, 27, No. 20, 21g, May, 15, 1935; Oil and Gas J. 33, No. 52, 31, May 16, 1935.

carbons profoundly affects the speed of combustion and knocking tendencies. This is clearly brought out in Table 1, which shows the octane ratings of individual hydrocarbons of the paraffin, olefin, cycloparaffin and aromatic series. The effect of hydrocarbon structure on octane rating is clearly shown by the three pentanes which have been studied. Normal pentane has an octane rating of 64, the 2,2-dimethylpropane an octane rating of 83 and the 2-methylbutane has a value of 90. The structural formulae of the three pentanes and corresponding O. N. ratings are shown as follows:

		Octane Number
Normal Pentane		64
2, 2—Dimethylpropane		83
2—Methylbutane		90

Catalytic Polymerization

The U.O.P. catalytic polymerization unit consists of a heater, catalyst chamber, condenser, receiver, stabilizer and equipment for reactivating the catalyst in situ. Due to the low temperature (450 F.) and pressure (200 lbs.) used, the installation cost is relatively low and a number of plants have been built or are designed based upon using old equipment around the refinery, such as pressure vessels, etc.

The flow chart (Figs. 1 and 2) and photographs illustrate commercial catalytic polymerization units.

The olefin-containing gases are heated to a temperature of about 450 F. and under pressures of the order of 200 pounds, in a furnace from which they flow over the "solid phosphoric acid catalyst" through the catalyst chambers. The flow through the chambers is in series. A combination of the olefins present in the gases takes place. The time, temperature and pressure are so controlled that the products of the catalytic reaction boil within the gasoline range. A small quantity of steam is continuously added to the gases passing through the process, which serves to prevent dehydration of the catalyst under the operating conditions. The heat liberated by the polymerization reaction increases the temperature in the catalyst chamber to about 550 F.

The products of the reaction are passed through a condensing coil and the polymer gasoline is drawn from the bottom of the receiver while the lean de-olefinized gas flows from the top of the receiver to mix with refinery fuel gas. The polymer gasoline is pumped to a stabilizer which is so controlled as to produce the vapor pressure product desired. The so-called rich gas from the top of the stabilizer may be further processed by either cracking or dehydrogenation to produce high olefinic gases for re-

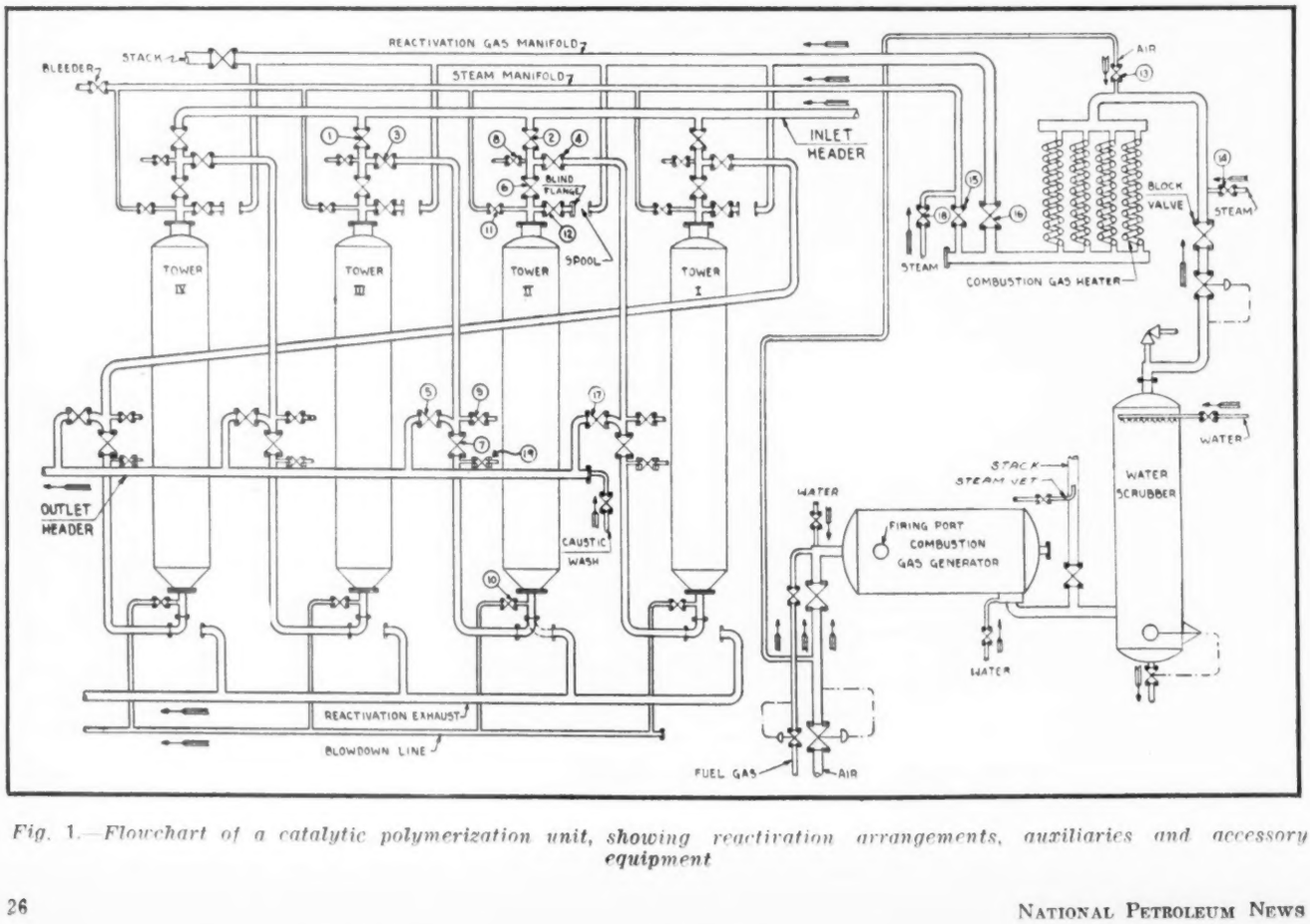


Fig. 1.—Flowchart of a catalytic polymerization unit, showing reactivation arrangements, auxiliaries and accessory equipment

TABLE 1

Octane Ratings of Hydrocarbons

(C.F.R. Motor Method)

PARAFFINS

	Hydrocarbon Symbol	Octane Number
Methane	CH_4	125 Est.
Ethane	C_2H_6	125 Est.
Propane	C_3H_8	125 Est.
Butane	C_4H_{10}	91
Isobutane	C_4H_{10}	99
Pentane	C_5H_{12}	64
2, 2—Dimethylpropane	C_5H_{12}	83
2—Methylbutane-isopentane	C_5H_{12}	90
Hexane	C_6H_{14}	59
2, 3—Dimethylbutane	C_6H_{14}	95
Heptane	C_7H_{16}	0
Octane	C_8H_{18}	−0
Iso-octane—2, 2, 4—trimethylpentane	C_8H_{18}	100
Nonane	C_9H_{20}	−28
Isodecane	$C_{10}H_{12}$	93
Isododecane	$C_{12}H_{26}$	100

OLEFINS

1—Butene	C_4H_8	80
2—Butene	C_4H_8	83
Isobutene	C_4H_8	87
Di-isobutene (polymer product)	C_8H_{16}	84
Tri-isobutene (polymer product)	$C_{12}H_{24}$	87
Di-isoamylene (polymer product)	$C_{10}H_{20}$	75

CYCLOPARAFFINS

Methylcyclopentane	C_6H_{12}	82
Cyclohexane	C_6H_{12}	87

AROMATICS

Benzol	C_6H_6	97
Toluol	C_7H_8	100+

processing in the catalytic polymerization process.

After continued operation, the catalyst gradually loses its activity which is caused primarily by a deposit of carbonaceous material. To reactivate the catalyst to its original state, the carbonaceous material is removed by oxidation to water and carbon dioxide. The temperature of the oxidation is controlled by passing a stream of combustion gases containing limited percentages of oxygen over the catalyst; the maximum temperature generated in the catalyst bed does not exceed 950 F. The combustion gases entering the catalyst bed are held at a temperature of about 600 F., which is the approximate ignition temperature for the carbonaceous material and oxygen. It is desirable to limit the amount of water vapor in the combustion gases to about 3 per cent by volume.

After the oxidation or burning of the carbonaceous material has been completed, it is necessary to hydrate the catalyst to the proper degree so as to produce the highest activity. This is accomplished by maintaining the catalyst in an atmosphere of steam for 10 to 16 hours at approximately 500 F.

Gas Analyses

To analyze gases from the cracking process is a relatively complex operation when it is desired to obtain reasonably close results on the individual components present. A quick determination of the total percentage of propene, isobutene, 1-butene and 2-butene present in cracked gases may be made by first passing the gas through a potassium hydroxide gas pipette to remove hydrogen sulfide and carbon dioxide and then through an 87 per cent sulfuric acid pipette. The absorption in the latter pipette gives the yield in per cent of the four olefins. When the isobutene percentage is desired the steps are potassium hydroxide solution as before followed first by absorption in a 64 per cent solution of sulfuric acid which polymerizes the isobutene, after which an 87 per cent sulfuric acid solution may be used for the determination of the mixture of propene, 1-butene and 2-butene.

Before the design of a catalytic polymerization unit is made, analysis for each component present in the cracked gas is made by a combination of low temperature Podbielniak[1] and Gockel apparatus.[2]

The hydrocarbon gases to be processed catalytically may vary widely in propene and butene percentages. Typical analyses are shown in Table 2.

TABLE 2

Typical Analyses of Various Refinery Gases

	Stabilizer Gas, Per Cent			Deeply Stabilized Gas, Per Cent	Receiver Gas, Per Cent
Noncondensables	5.5	4.0	8.6	0.4	26.5
Ethylene	2.9	16.0	2.6	0.6	6.0
Ethane	13.4	17.8	10.4	4.4	17.3
Propene	15.3	29.0	14.0	9.3	11.2
Propane	39.4	22.2	34.4	21.8	26.8
Isobutene	3.8	2.6	4.3	9.5	1.2
n-Butenes	5.9	6.2	6.0	17.6	2.8
Butanes	12.9	2.0	18.2	36.4	5.6
Pentanes and higher	0.9	0.2	1.6	.....	0.2
Propene and butenes	25.0	37.8	24.3	36.4	15.2

Hydrocarbon gases containing olefins such as propene and butenes are derived from the cracking process, the cracking of propane and butane, or their catalytic dehydrogenation into the corresponding propene and butenes.

Yields of Polymer Gasoline

The possible yield of polymer gasoline per 1000 cubic feet of olefin containing gas is a function of the percentage of propene and butene and their ratio. The higher the percentage present, the greater the yield of polymer gasoline. Also the yield of polymer gasoline is larger if more butene than propene is present in the gas.

A number of commercial cracked gases were analyzed for their propene-butenes percentage. The yields of polymer gasoline of 10 pounds Reid vapor pressure derivable per 1000 cubic feet of gas are shown in Table 3.

TABLE 3

Yields of Polymer Gasoline from Gases of Varying Propene-Butene Content

Propene and Butenes % in Cracked Gas	Polymer Gasoline, Gallons per 1000 cu. ft. Cracked Gas
14.1	2.4
17.8	3.0
18.0	3.1
18.9	3.7
21.3	4.2
24.1	4.9
27.1	5.3
27.5	5.8
33.3	7.0
34.3	7.3
41.0	9.2

1. Ind. Eng. Chem., Anal. Ed., 5, 119 (1933)
2. Modified by Universal Oil Products Co

Catalytic Polymerization Units

A number of Universal Oil Products catalytic polymerization units are in commercial operation, under design or in course of construction or projected, which range in daily capacity from 600,000 to 27,000,000 cubic feet of cracked gas, with a propene-butene content of from 14 to 41 per cent.

The data covering these units is shown in Table 4, relating to cubic feet of cracked gas per day, the percentage of propene and butenes present, the gallons of polymer gasoline per 1000 cubic feet of gas, and the total polymer gasoline per unit per day.

Properties of Polymer Gasoline

Polymer gasoline has but relatively few hydrocarbons present, which are made up predominantly of olefins. An interesting study of this gasoline was made by Tongberg, Nickels, Lavorski and Fenske of Penn State College who reported before the Petroleum Section of the American Chemical Society meeting at Pittsburgh, Sept. 7, 1936:

"The distillations were run in a 0.95-inch i.d.,

TABLE 4

Production of Polymer Gasoline by Different Units

Catalytic Polymer Unit, Cracked Gas, Million Cu. Ft. per Day	Per Cent Propene-Butenes in the Cracked Gas	Polymer Gasoline, Gallons per 1000 Cu. Ft.	Polymer Gasoline, 10-lb. Reid Vapor Pressure, Gals. per Day
0.6	27.1	5.3	3,180
0.7	33.5	7.1	5,040
1.1	17.7	3.0	3,300
1.8	14.1	2.4	4,320
2.0	24.1	4.9	9,500
3.1	18.0	3.1	9,800
4.2	41.0	9.2	39,000
5.0	17.9	3.0	15,000
6.0	27.5	5.8	34,800
6.7	34.6	7.3	49,200
7.8	21.0	4.2	33,000
8.7	18.9	3.7	32,375
12.5	34.0	7.3	91,200
15.0	33.2	6.8	102,000
27.0	21.6	4.2	113,500
102.2			545,215

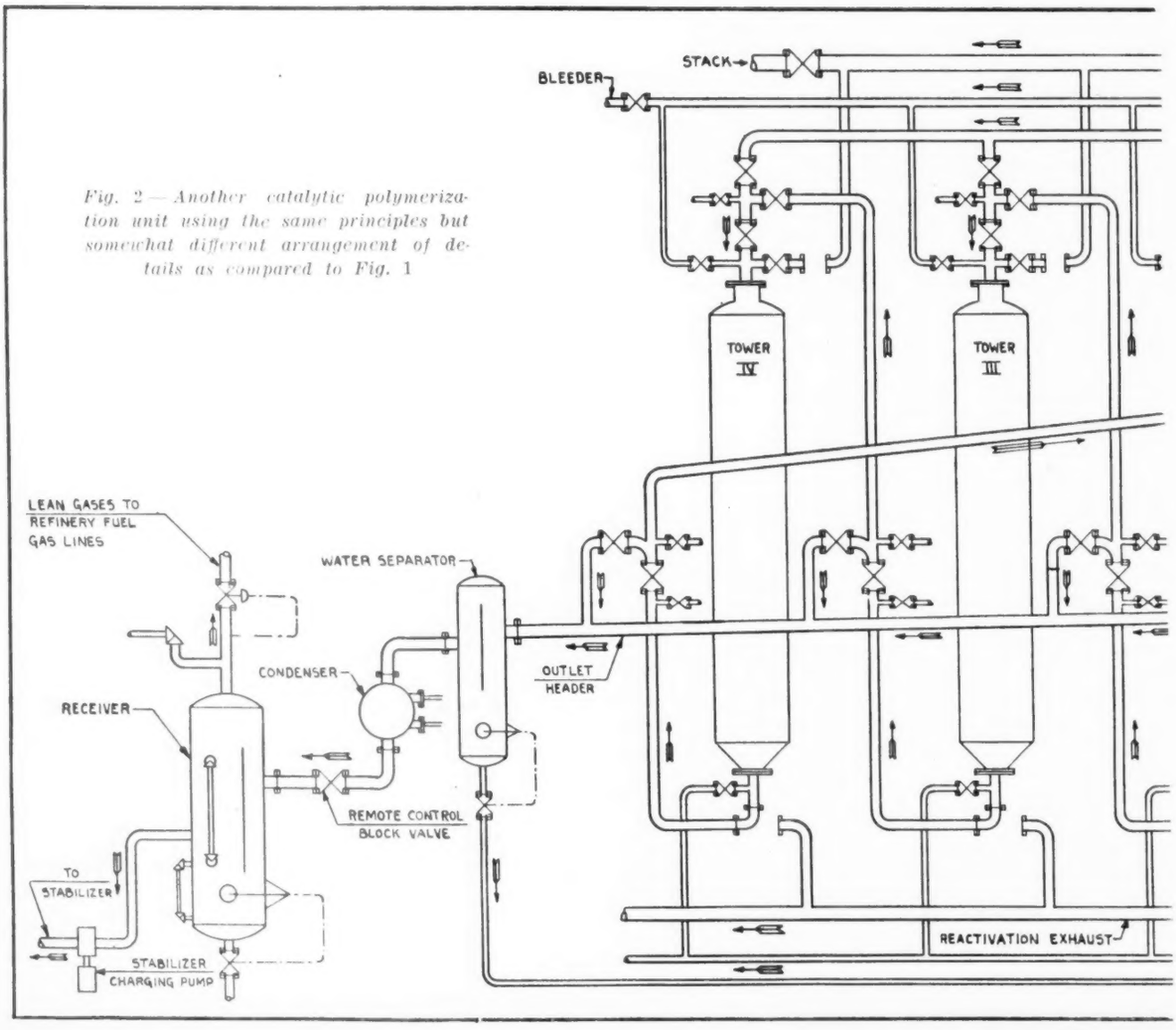


Fig. 2 — Another catalytic polymerization unit using the same principles but somewhat different arrangement of details as compared to Fig. 1

39-foot tall column having approximately 100 theoretical plates under total reflux with a mixture of n-heptane and methylcyclohexane. The charge in each distillation was 10 liters and the average reflux ratio was 40 to 1. Each fraction of distillate corresponded to 0.6 to 1.5 per cent by volume of the charge."

"Two very narrow boiling fractions were obtained in the fractionation of polymer gasoline as follows in Table 5:

TABLE 5

Vol. % of Charge	Boiling Range	Refractive Index Range	Bromine No. Range	A. P. I. Gravity Range
9.3	94.8-95.6	1.4109-1.4112	177-182	65.7-66.6
6.9	97.0-97.8	1.4140-1.4152	188-195	64.1-64.5

Included in the second fraction were three small fractions comprising 3.1 per cent of the charge, having a boiling point of 97.7-97.8, a constant refractive index of 1.4140, a constant bromine number of 192 and varying in A.P.I. gravity by 0.3. No pure hydrocarbon for which information is available has properties approaching the above.

Hydrocarbons[1] boiling similarly to the 94.8-95.6 C. fraction are shown in Table 6:

TABLE 6

	B. P. °C.	d_4^{20}	n_D^{20}
Heptene—1	94.9	0.6993	1.3999
Heptene—3	95.9	0.7043	1.4090
3—Ethylpentene—2	94.9	0.7172	1.4120

"Three facts in the polymer gasoline fractionation are outstanding, first that 48.1 per cent of the original gasoline could be classified as having 7 carbon atoms, second that bromine numbers were too high for mono-olefins, and third that the refractive index curve gave no pronounced peaks and valleys. This last fact indicates that the same type structure predominates and that the aromatic, cyclic olefin, and diolefin content is low. The high bromine numbers are probably due to substitution and not to diolefins. In view of the results, the presence of branched, reactive olefins would be expected."

The percentage distribution of the number of carbon atoms in the hydrocarbon molecules of the fractions in the polymer gasoline is shown in Table 7:

1. Soday and Boord: J. Am. Chem. Soc., 55, 3293 (1933).

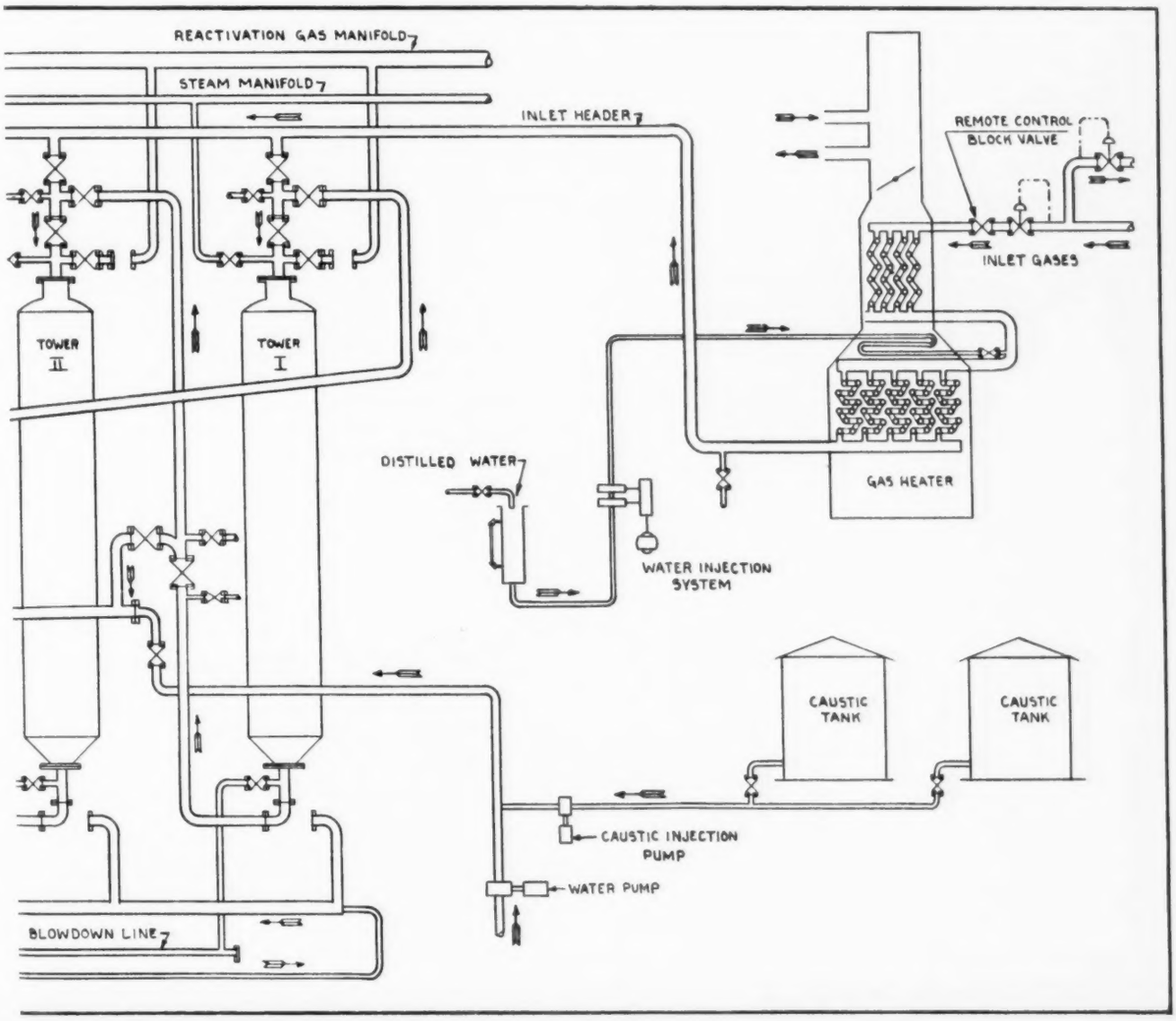


TABLE 7

Percentage Distribution of Number of Carbon Atoms

No. of Carbon Atoms	Polymer Gasoline Volume Per Cent
3-4	0.0
5	1.7
6	5.6
7	48.1
8	15.2
9	0.0
10	0.0
11	0.0
11 and higher	12.3a
Loss	17.1b

a. Actually this volume contains some hydrocarbons of smaller number of carbon atoms that drained back into the still.
b. A sudden leak developed near the still when the distillate temperature reached 125.5° C. This accounts for the major part of the loss.

Polymer gasoline is particularly outstanding in its octane rating and blending value. The product coming from the catalytic polymerizing unit boils within the gasoline range. Depending upon the hydrogen sulfide present in the cracked gas, the percentage of sulfur in the polymer product may be low or high. The hydrogen sulfide may be removed from the cracked gas by one of a number of commercial processes. Hydrogen sulfide reacts with the olefins present in the cracked gas producing mercaptans, which can be almost entirely removed by strong caustic soda.

A stabilized cacked gas containing 0.8 per cent hydrogen sulfide yielded a polymer gasoline containing 0.63 per cent sulfur, whereas after scrubbing the gas with caustic soda the polymer gasoline contained 0.02 per cent sulfur. The data of the polymer products are shown in Table 8.

TABLE 8

Data of the Polymer Products
POLYMER GASOLINE

(As Produced)

	Unscrubbed Gas		Hydrogen Sulfide Removed
A.P.I. Gravity	69.5	66.5	67.2
Gum (Atlantic Refining Co. Method, Copper dish (mg.)	23	36	51
Sulfur, total per cent	0.63	0.31	0.02
Mercaptan sulfur, per cent	0.48	.....	0.00
Octane numer (C.F.R. Method)	82	79	82
Oxidation bomb induction period. Min.	90	....	45
Reid vapor pressure at 100° F., lbs.	12.8	....	10.6
100 CC. A.S.T.M. DISTILLATION			
Initial B.P. °F.	89		94
Per Cent Distilled Over			
10	140		158
20	169		186
30	192		199
40	204		207
50	214		215
60	227		224
70	245		241
80	289		277
90	355		333
End Point	415		415

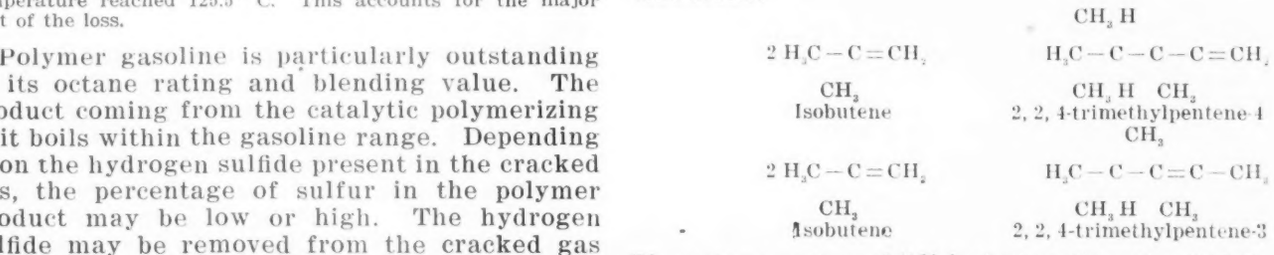
The blending value of polymer gasoline varies as a function of the gasoline to which it is added. When starting with a 44-octane gasoline, the rating of octane is raised to 59 using a 20 per cent polymer gasoline concentration, whereas when the starting gasoline was of 70-octane rating, it was raised to 74 when using the same concentration as shown in Table 9.

TABLE 9

Blending Values of Polymer Gasoline

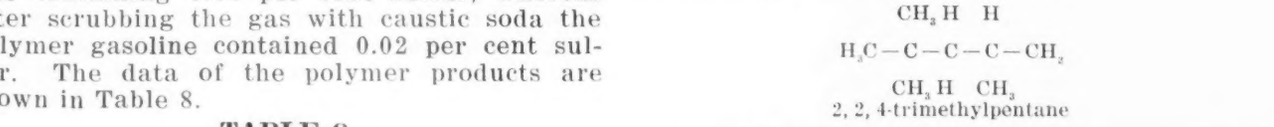
% 81-Octane Polymer Gasoline Added	44-Octane Straight-run Gasoline	70-Octane Regular Gasoline
	Octane Ratings of Blends	
5	48	72
10	52	73
15	56	74
20	59	74

The production of 95-100 octane fuel can be brought about through the catalytic polymerization of the isobutene present in cracked gases. A mixture of 2,2,4-trimethylpentene-3 and 2,2,4-trimethylpentene-4 is technically known as "di-isobutene."



The octane rating of "di-isobutene" by the C.F.R. Motor Method is 84 but on a blending value basis in Reference Fuel A-3 of octane rating 44, the octane rating ranges from 153 to 95 in concentrations from 5 to 75 per cent.

Upon mild hydrogenation the two trimethyl pentenes comprising di-isobutene form the same iso-octane, 2,2,4-trimethylpentene



of 95-100 octane number. The properties of the fuel are 71 A.P.I. gravity and a boiling range of 206-244° F. The maximum concentrations of the butenes in cracked gases are those derived from the liquid condensate in the stabilizer composed of butanes and butenes. The percentage composition varies widely, dependent upon the stock which is cracked, as shown in Table 10.

TABLE 10

Butenes and Butanes from Stabilizers

Per Cent by Volume

No.	1	2	3
Isobutene	8.9	11.5	12.4
n-Butenes	19.3	36.1	28.7
Butanes	68.4	52.4	58.9

The iso-octane produced from the hydrogenation of di-isobutene is readily blended with isopentane.[1] It is stated that "Isopentane can be added in considerable proportions in the manufacture of high octane number aviation gasolines. It has the effect of greatly augmenting the supply of such gasolines relative to the supply of iso-octane. Isopentane imparts desirable volatility to the iso-octane blends. From the anti-knock viewpoint, isopentane has a value ranging from 92 to 100 per cent of that of iso-octane in making 100-octane number aviation gasoline."

1. Neptune, Trimble and Alden, Oil and Gas J., p. 26, April 23, 1936.

Future Demand for California Petroleum Products

PRESENTING data to show that a large part of the so-called California demand for petroleum products the past few years actually represents shipments maintained to take care of the surplus crude production there, the author of the following paper states his belief that the future demand will not include the disposition of a surplus above its economic markets, unless new flush fields are found or deeper sands of importance developed in existing fields.

Included in the markets developed to take care of surplus production he includes shipments to the Atlantic seaboard and to Europe, and the consumption of low cost fuel and gas oil resulting from the relatively low gasoline yield from crude now existing in California refining practice.

The crude requirements from California necessary to supply economic markets, assuming that the same rate of gasoline yield is secured in California as is predicted for the rest of the country, can be met for 20 years, it is stated, from present estimated crude reserves there. Following is Mr. Hand's paper.

By A. H. HAND*

WHEN considering the question of future demand for crude petroleum in California, one must first decide whether it is to be approached in the light of the definition of "demand" when used in economics, i.e., "the quantity of any commodity required or sought in the market", or in the light of markets developed to dispose of total supply.

Therefore, is the California demand of future years to be predicated on a continuation of supplying markets developed following the surplus production commencing in 1922, or predicated on supplying what would be termed economic markets? If the latter, what are economic markets?

Obviously, the Pacific coast states and Canada, Alaska, Hawaii and probably the Pacific side of Central and South America, can be considered as normal markets for California petroleum products. While there have been small quantities of gasoline shipped into the Pacific coast from East Texas, transportation costs, plus import taxes in the case of foreign oil, are a sufficient barrier to justify considering that these markets will be retained.

A. H. Hand

But how about our participation in Atlantic and Pacific foreign and intercoastal markets?

During the five years preceding 1931 California shipped substantial quantities of gasoline to the United Kingdom and to France, Germany and Italy. During recent years our business in European markets has been restricted to occasional shipments of gasoline and Kettleman crude. This loss of business is occasioned by the development of production in the Mid-Continent, principally East Texas, and in Iraq, Rumania, Venezuela and other closer producing areas, which makes it impossible, at the prevailing crude oil prices, for California to be competitive in supplying any substantial portion of these markets. It is therefore apparent that, under a stabilized price structure that will return the California producer a reasonable price for his oil, future Atlantic foreign business will be restricted to occasional spot cargo sales.

As to Pacific foreign shipments which, in addition to Central and South America, consist principally of shipments to Japan, China, Australia and New Zealand: A considerable portion of the business we had with Australia and New Zealand up until four or five years ago is now being supplied from the East Indies. So far development of production in Russian Sakhalin has had little effect on our business with the Orient. Substantial reserves have been developed in Bahrein Island, and while it is too early to forecast what effect this supply will have on our shipments to Japan, substantial quantities of this

*Assistant Comptroller, Union Oil Co. of California, Los Angeles, Calif. Member American Petroleum Institute Committee on Supply and Demand.

crude are now being shipped into that country. Needless to say, if there is a considerable decline in the state's production, resulting in a materially higher price schedule for our crude, there will be a substantial reduction in our Pacific foreign business.

The same situation holds true in the case of our East coast business. With the exception of shipment of some 15,000,000 barrels of fuel oil during 1933 and 1934, which was in effect a reduction of the excessive stocks existing in California, fuel oil movements to the East coast have been quite limited, shipments being almost entirely gasoline. If the production in Texas, Oklahoma and Louisiana holds up as it gives promise to and the same relationship is maintained between the price schedules for Mid-Continent and California crudes, we cannot economically ship to the Atlantic seaboard.

As an illustration, our present posted schedule is based on 27 gravity Signal Hill crude at $1.10 a barrel, which by straight run operations will yield around 27% of gasoline, whereas 36 gravity Oklahoma - Kansas crude, which has a straight run gasoline yield of around 36%, is posted at this same price, and 36 gravity crude in West Central Texas, with about the same gasoline content, is posted at only $1.00 a barrel. East Texas crude will yield about 36% gasoline from straight run operations, the present price schedule for which is $1.15 a barrel.

TABLE 2

California Crude Oil Consumption, Compared with Production, for Past Five and Half Years

(Figures in Barrels Daily)

	Consumption	Production
1931	520,000	516,000
1932	494,000	487,000
1933	484,000	474,000
1934	476,000	481,000
1935	566,000	569,000
First half 1936	600,000	594,000

California is at a further disadvantage by reason of the difference in transportation costs to the Atlantic seaboard. Pipe line transportation from Oklahoma to the Gulf is quoted at 32½ cents a barrel and from East Texas to the Gulf at 12½ cents a barrel while steamer rates are now running about 22 cents a barrel from the Gulf to the Atlantic seaboard. This makes a total transportation cost of 54½ cents per barrel for Oklahoma gasoline and 34½ cents a barrel for East Texas gasoline moved to the East coast by water. As opposed to this, prevailing steamship rates alone from California to the Atlantic seaboard are about 60 cents a barrel and not long ago ran as high as 84 cents. Obviously, unless some adjustment is made of the disparity in the posted crude prices, any present or continuing surplus gasoline in California shipped to the Atlantic seaboard will have to be sold at a price that will not, after taking into consideration the realization from the other products, return the posted price for crude.

With the foregoing in mind, the question then arises why, during the last five years or so, has California been continuing such large shipments out of the Pacific coast territory? Recalling the efforts put forth and the sacrifices made to reduce the production of crude oil to profitable market demands, it would be well to consider what disposition has been made of the production during that period.

Before doing so, it is interesting to consider the increase in our Pacific coast demand during the past 15 years and the growth of our offshore business following the development of the Los Angeles Basin fields; also, the effect on our Atlantic foreign and intercoastal shipments of the flush production from the East Texas fields starting in 1931. Our gasoline consumption and shipments during the 15.5 years starting with Jan. 1, 1921, have been as set forth in Table No. 1. Taking only the last five and one-half years, our crude oil consumption as compared with the quantity produced is shown in Table No. 2.

It will, therefore, be seen that our consumption followed the same trend as the production. In other words, primarily as a result of the curtailment efforts in 1932, the production averaged 29,000 barrels a day less than the year previous and the consumption declined 26,000 barrels a day. Likewise, the tremendous increase in production following the collapse of curtailment in the summer of last year resulted in the production for 1935 averaging 88,000 barrels a day more than it did in 1934 and the consumption increased 90,000 barrels a day, although in this case, because of the impossibility of immediately developing markets to dispose of the surplus, it was reflected in additions a gasoline and fuel oil inventories last year.

It is reasonable to assume that, in the main, our Pacific foreign shipments to date have been a part of our economic demand, since we have so far been the logical source of supply, but that our European and Atlantic seaboard shipments have

TABLE 1

California Gasoline Consumption and Shipments During 15 Years, Starting With Jan. 1, 1921

(Figures in Barrels Daily)

	Pacific Coast	Pacific Foreign	Atlantic Foreign	Intercoastal	Total
1921	31,000	1,000	.....	.....	32,000
1922	39,000	1,000	1,000	.....	41,000
1923	62,000	4,000	5,000	7,000	78,000
1924	56,000	3,000	12,000	8,000	79,000
1925	75,000	6,000	10,000	27,000	118,000
1926	84,000	11,000	15,000	23,000	133,000
1927	103,000	13,000	17,000	32,000	165,000
1928	109,000	19,000	23,000	46,000	197,000
1929	119,000	23,000	32,000	64,000	238,000
1930	126,000	23,000	34,000	56,000	239,000
1931	133,000	18,000	8,000	38,000	197,000
1932	125,000	21,000	10,000	23,000	179,000
1933	123,000	16,000	5,000	31,000	175,000
1934	130,000	15,000	4,000	24,000	173,000
1935	142,000	15,000	9,000	19,000	185,000
First half 1936	150,000	17,000	9,000	20,000	196,000

Aerial view of the Kettleman Hills oil field in California where it is charged the present rate of natural gas production is threatening the ultimate oil recovery

principally been the result of surplus production. Let us consider, therefore, what our requirements would have been during the last five and one-half years if no Atlantic foreign and intercoastal gasoline and crude shipments had been made, on the theory that these markets were retained solely to dispose of surplus supply.

It is recognized that this is a controversial point, but the fact remains that, as long as Mid-Continent and certain foreign crudes have a price advantage over California, we cannot, as before stated, after absorbing the higher transportation costs, realize a price for shipments to the Atlantic seaboard and to European markets that will return our posted price for crude.

Eliminating, therefore, the crude shipments into these markets, which are of little consequence and mainly to Europe, and the crude required to supply the gasoline shipments thereto, which, by the way, has been calculated on the basis of the gasoline yields during each of the respective years, our crude requirements, as compared with our actual production, would have been reduced to the figures shown in Table No. 3.

During this period, because of the surplus crude constantly pressing on the market, cracking operations in California have been at a substantially lower rate than the rest of the U. S., with the result that gasoline yields from total crude runs to refineries in California have been averaging around 33% whereas east of California the yields have been running around 46%.

If the gasoline yields from crude runs in California had been the same during that period as they were for the rest of the U. S. and we had made no gasoline or crude shipments to Europe and Atlantic seaboard markets, our crude requirements, as compared with the actual production, would have been as shown in Table No. 4.

TABLE 3

Requirements for California Crude, in Past 5.5 Years, Eliminating Shipments of Crude and Crude Required to Supply Gasoline Shipments Thereto, to European and Atlantic Seaboard Markets Resulting Principally from Surplus Cal. Production

(Figures in Barrels Daily)

	Requirements	Production	Surplus
1931	417,000	516,000	99,000
1932	409,000	487,000	78,000
1933	405,000	474,000	69,000
1934	416,000	481,000	65,000
1935	479,000	569,000	90,000
First half 1936	499,000	594,000	95,000

Obviously, if this had been the case, sales of both light and heavy fuel oils would have had to be substantially restricted because of the conversion of a larger part of the crude oil into gasoline. In this connection, however, because of the necessity of currently disposing of the crude oil being produced and because of the small quantity of gasoline extracted therefrom, it was necessary to develop markets for proportionately larger volumes of gas and fuel oils. Consequently, substantial quantities of these products were sold during the period at extremely low prices.

It is therefore obvious that a large part of our so-called demand during the last five and one-half years actually represents **shipments into markets maintained solely to take care** of surplus supply.

Another factor that will have a definite bearing on future crude requirements is the trend towards increased cracking. The development in automotive en-

gines in the last three years has been such that large quantities of cracked gasoline are necessary to produce a motor fuel usable in the newer cars. If this increased cracked gasoline requirements is to be supplied by cracking residuum, then even lesser quantities of refining crude oil will be required.

While California crude oil cannot, generally speaking, be cracked to the point of producing the same percentage of gasoline as, for example, the Mid-Continent crudes, it is safe to say that if market demand and price structure were such as to justify the cost, from 50% to 60% gasoline could be produced from California refining crude with the type of cracking equipment that can be constructed today and still leave a salable fuel oil.

If, however, a larger part of our crude production is to be converted into gasoline in the future, then an equivalent quantity of existing fuel oil businesss will have to look to other sources of supply if our demand for products is kept in balance. In this event, the increased usage of fuel oil for cracking will materially strengthen the price therefor over what it has been during the last five or six years. From the standpoint of the petroleum industry in California, however, this is an encouraging outlook in that it will ultimately result in a higher realization to the producer since it must be recognized that the value of a barrel of crude oil is really the overall realization from its sale in the form of products.

In passing, it might be of interest to point out that during the past five years or so both the Atlantic and Pacific fleets of the U. S. Navy have been stationed in Pacific waters. During this time the Navy has been requiring about 7,500,000 barrels annually of fuel oil. If the procedure were reversed and the major portion of the fleet were transferred to Atlantic waters, our fuel oil demand would be reduced accordingly. With the exception of steamship bunkers, the principal users of fuel oil on the Pacific coast, however, are the railroads. The figures for 1935 are not yet available, but railroad consumption during the preceding four years was as follows:

	Barrels
1931	23,915,000
1932	17,753,000
1933	16,887,000
1934	19,704,000

With the trend toward diesel equipment, it is apparent that not only because of the increased speed but because of the materially lower fuel operating costs, this type of equipment will come into more general use. While the petroleum industry will be called upon to supply the diesel fuel, the quantity required will be substantially less than the fuel oil consumed by the locomotives thereby displaced.

The question then is, what will be our future demand, or possibly better yet, what will be our crude requirements? The American Petroleum Institute recently published an exceedingly interesting survey captioned "A Survey of the Present Position of the Petroleum Industry and Its Outlook Toward the Future". That survey, which covers the 25-year period, 1935-1960, was prepared in co-operation with the American Association of Petroleum Geologists and the industry's experts in production, demand, transportation, refining, marketing, taxation and labor, and goes into the subject in exhaustive and elaborate detail. It recognizes the probable increases in consumption resulting from increased population, motor vehicle registration, the expansion of aviation, the greater use of buses and trucks for passenger and freight transportation, the expansion of the use of diesel engines, probable improvement in the efficiency of automotive and aviation equipment and the improvement in refining technique towards increasing the available supply of motor fuel by the extension of cracking operations, hydrogenation, polymerization and the substitution of alternative fuels, etc.

FROM the standpoint of demand, the most outstanding point is that while motor fuel requirements are estimated to increase from 432,000,000 barrels in 1935 to 657,000,000 barrels in 1960, as a result of the forecasted steady increase in gasoline yields from crude runs, crude requirements only increase from 91,000,000 barrels in 1935 to 1,071,000,000 barrels in 1960, as set forth in Table No. 5.

It is appreciated that the future outlook for the expansion and development of the Pacific coast is not comparable with the U. S. as a whole, that we do not have the closely populated areas as in the east, that our farming lands are not as fully developed as in the middle west,

TABLE 4

California Crude Requirements, Past 5.5 Years, Had Gasoline Yields from Crude Runs in California Been the Same as for the Rest of the U. S. and if No Gasoline or Crude Shipments Had Been Made to European and Atlantic Seaboard Markets

(Figures in Barrels Daily)

	Requirements	Production	Surplus
1931	319,000	516,000	197,000
1932	307,000	487,000	180,000
1933	307,000	474,000	167,000
1934	311,000	481,000	170,000
1935	356,000	569,000	213,000
First half 1936	390,000	594,000	204,000

TABLE 5

Motor Fuel Requirements, to 1960, for Country at Large, and Crude Oil Necessary to Produce This Motor Fuel

(From 1935 Survey of American Petroleum Institute)

	Motor Fuel Requirements Barrels	Gasoline Yield from Crude Per Cent	Crude Oil Requirements Barrels
1935	432,000,000	43 8	919,500,000
1940	563,880,000	48 0	1,099,000,000
1945	599,900,000	51.0	1,104,080,000
1950	636,570,000	54.0	1,109,800,000
1955	647,160,000	56 0	1,087,930,000
1960	657,490,000	58.0	1,071,020,000

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that we do not have the same condition of non-users of motor fuel as exists in the metropolitan areas of the east and in certain sections of the south.

We should consequently be justified in looking forward to a greater increase in motor fuel consumption on the Pacific coast during the next 25 years than has been forecast for the United States. Assuming, however, that our increase is only at the same rate as forecast for the United States, that we retain only our existing Pacific foreign business of both gasoline and crude oil and that our gasoline yields were increased to the same percentage as set forth in the American Petroleum Institute report under discussion, our future outlook would be as shown in Table No. 6.

In connection with the foregoing indicated crude requirements, it will be recalled that our crude oil production is now averaging around 580,000 barrels daily.

Numerous estimates have been made by qualified petroleum engineers, the California Oil Umpire's Office and the American Petroleum Institute which set the future developed crude oil reserves of California between two and three quarter billion and three and one-half billion barrels. It is recognized that such estimates have to be predicated entirely on known existing fields, sands and structures and, consequently, have to be constantly revised. Using three billion barrels, however, as a basis, our reserves are sufficient to supply the foregoing indicated requirements for about 20 years.

If the Pacific foreign shipments were also eliminated, which, of course, could not be done until the current crude oil production was reduced to Pacific coast requirements, this reserve would be sufficient to supply the Pacific coast requirements for about 25 years. At the same time, as a result of increasing our gasoline yields from the present 33% to 48% in 1940 and then to 58% by 1960, we would, as before discussed, be required to substantially reduce our fuel oil business. On the other hand, if we continue our present rate of consumption, our reserves, on the basis of three billion barrels, would be depleted in about 15 years, provided of course, the oil could be produced in so short a period.

It would, therefore, seem that unless some undiscovered flush fields or deeper sands of large importance are presently developed in California, our question is answered. That the future demand for California petroleum products will be as in the past, our available supply, but that in the future it will not include the disposition of a surplus over and above our economic markets.

Therefore, if present estimates of California reserves closely approximate the ultimate recovery, then we will within a very few years see the entire elimination of shipments to Europe and the Atlantic seaboard and will also see a material reduction, if not an entire elimination of shipments to Pacific foreign markets. This should not be viewed, however, with alarm but as an optimistic outlook for the California producer and, in turn, the people of the state by reason of the greater revenue that will be possible from the utilization of California's most important natural resource.

As to supplying our own requirements, there should be no fear as to a shortage, for as before mentioned, the present day refinery methods are such that, if necessary, a considerably larger portion of our crude supply can be converted into motor fuel, which is the most important product. Furthermore, it is generally accepted that future improvements in refinery engineering will, if required, provide an even larger recovery than is now possible. . . . . .

TABLE NO. 6

Future Outlook for Gasoline and Crude Oil from California, Assuming Same Rate of Increase in Motor Fuel Consumption as that Estimated for Entire U. S., also Assuming only Existing Pacific Foreign Business of California in Both Gasoline and Crude Oil is Retained and that Gasoline Yields Increase to Same Percentage as Set Forth in API Survey.

(*Figures in Barrels Daily*)

	Gasoline Demand			Crude Requirements		
	Pacific Coast	Pacific Foreign Shipments	Total	To Supply Gasoline Demand	Pacific Foreign Shipments	Total
1940	184,000	15,000	199,000	348,000	39,000	387,000
1945	196,000	15,000	211,000	346,000	39,000	385,000
1950	207,000	15,000	222,000	345,000	39,000	384,000
1955	211,000	15,000	226,000	338,000	39,000	377,000
1960	214,000	15,000	229,000	332,000	39,000	371,000

Researchers Find New Coal Tar Products

PITTSBURGH, Oct. 2. — A new series of high-boiling solvent oils and a new stable resin have been prepared from light oils derived from by-product coking operations. This work has been done by P. J. Wilson, Jr. and J. H. Wells, at Mellon Institute of Industrial research here, according to announcement by W. A. Hamor, assistant director of research for the Institute.

These high-boiling oils are mainly aromatic in character, with small percentages of paraffins and of oils soluble in 80 per cent sulfuric acid, the announcement states. They boil between 180 C. and 375 C., have a specific gravity of 0.950 to 1.030, and are excellent solvents for resinates, many natural gums and synthetic resins, rubber, Thiokol, etc.

The resin appears to be a mixed polymer of aromatic olefins and cyclic dienes, or compounds containing to separate double bonds between carbons, it is stated. It is emulsifiable in water, soft at 140 C., contains no free carbon, and is miscible with many gums, resins and asphalt, coal tar pitch, and pine tar. It appears to be suitable for binder and adhesive purposes, floor tile, varnishes, linoleum, battery seals, etc.

ADVERTISING PAGES REMOVED

Rate of California Gas Output Threatens Oil Recovery

By JACK N. WESTSMITH
N. P. N. Staff Writer

LOS ANGELES, Oct. 8 CALIFORNIA engineers and operators attending the fall meeting of the petroleum division of the American Institute of Mining and Metallurgical Engineers in Los Angeles, Oct. 1 and 2, were urged to adopt voluntary curtailment of gas production as a means of increasing the ultimate recovery of oil from the California fields.

John M. Lovejoy, president of the Institute, at the dinner meeting Oct. 1, pointed to California as formerly the most progressive of states in the adaptation of improving technique but now the laggard in respect to the application of production methods demonstrated to recover more oil at less cost.

It was brought out that three fourths of the state's current production comes from its older fields. The gas pressure has been depleted and the wells are now on the pump, with a gradual increase in the cost of production. Regulation of the flowing wells responsible for the other one-fourth of the production would keep the gas in the ground and put off the day when artificial lifting methods would become necessary.

The "rule of capture" was deplored as a dictator in production practices. The speaker said he realized that it was impossible to set up a definite gas/oil ratio and apply it to all fields, but said it was generally recognized that many wells producing in California had unnecessarily high gas production which was seriously depleting the reservoir energy of the fields.

Demand for gas as a fuel in California was advanced by the speaker as a probable reason why operators have not acted voluntarily in curtailing gas production. Particularly was this held true in the face of the small quantity of gas available from dry natural gas fields.

It was pointed out that, during 1935, approximately 500,000,000 cubic feet of gas per day had been supplied by oil fields, and it was estimated that from one third to half of this total came from wells with excessive gas/oil ratios. The suggestion was made that it would be better economics to restrict the gas from these wells and use fuel oil as a substitute in industrial plants. Such a policy was believed necessary to save natural gas for future domestic use and to lengthen the flowing life of these wells.

This talk tied in directly with a paper prepared by R. E. Collom, vice-president of Continental Oil Co., and C. P. Watson, vice-president of Seaboard Oil Corp., and presented by the latter reviewing developments at Kettleman Hills. The authors pointed to a lack of complete unitization of the Kettleman North Dome field as a bar to orderly production. In a practical sense, it was claimed, there is no unit operation at Kettleman.

Non-unitized operators were held not entirely responsible for setting the pace of production. This lies in the fact that Kettleman is a major source of supply of gas for the utilities. The authors said that, although the field has produced 137,830,931 barrels of oil to Sept. 1, 1936, some interests still conveniently insist it is a gas field.

Rate of gas withdrawals was pointed to as an important factor in the manner of producing the field. It would be considered most fortuitous, in the opinion of the authors, if the pace of production set by the demands of the gas utilities were proper and efficient.

Of the state's production Kettleman North Dome currently produces daily 78,000 barrels, or 13.6 per cent, of the oil and 411,653 gallons, or 25.75 per cent, of the natural gasoline, the authors pointed out. Of the gas delivered to utilities, Kettleman is furnishing 200,000 thousand cubic feet daily, or 41.6 per cent.

The authors said that pressure losses had been entirely due to excessive gas withdrawals. Some 20 high ratio wells were charged with contributing more to the depletion of reservoir energy than all other wells in the field.

A recent survey of producing operations in the Kettleman field, it was said, showed 40 wells on gas lift and 29 wells making a water cut of ten per cent or more. This condition was pointed to as an impressive warning of the problems to be faced in a field where, because of the depth of the wells, every precaution should have been exerted towards maintaining flowing conditions.

Prospects of pumping oil from depths of 8000-9000 feet were pointed to as extremely unfavorable, both physically and economically. The authors called attention to an expense of pumping oil from the Clarke Zone at Santa Fe Springs of a net fluid cost of from 87 cents to $1.77 per barrel.

IN CONCLUSION the authors pointed to their belief that ample engineering data are available to show that present production methods are wasteful and injurious to the field; that pressure is diminishing at an alarming rate; that water encroachment is not fast enough to maintain pressure and that, if present practices are continued, the ultimate recovery from the field will be less than half of what it would be if unnecessary gas production were deferred until after the oil had been produced.

At the Dinner meeting, C. M. Nickerson, senior petroleum engineer, office of Inspector, Naval Petroleum Reserves in California, presented a paper on "The Co-operative Development Plan for Buena Vista Hills Oil and Gas Field."

Joseph Jensen, chief petroleum engineer, Associated Oil Co. dealt with recent developments related to petroleum engineering at the morning session, Oct. 2.

New Responsibilities Your Oil Resources Place Upon You TODAY

An address before the Oklahoma City Chamber of Commerce, Oklahoma City, Oct. 8, 1936

By **WARREN C. PLATT**

Editor and Publisher,

NATIONAL PETROLEUM NEWS

• • •

OIL producing states, these last few years, have been moving rapidly to new responsibilities that today they do not recognize but tomorrow may loom up as tremendous and vexing burdens unless they are understood and properly met.

These new responsibilities are coming about because of the intelligent and aggressive development of true conservation of our great natural resources, petroleum and natural gas; through the development of the best of scientific and engineering practices supported and protected by the necessary laws. And we are only well started down the road of conservation of natural resources.

Before going into a discussion of them, let me state those responsibilities as simply and as strikingly as I can. They are:

First: You, the people and conservation and other officers of the state of Oklahoma, as well as of all other active oil producing states, are responsible to the people of the United States as a whole for the efficient and economic development of your natural resources. Your responsibility is that the general public may have the fullest possible efficient use of those resources at the lowest reasonable cost. This responsibility you have for some years now recognized and are doing a good job of fulfilling it.

Second: You, the people of Oklahoma and your officials, are responsible for such development of the conservation of petroleum that its production, manufacture and distribution will be carried on in accordance, not only with the laws, but in accordance with the principles of commerce to which this country is today dedicated. I mean particularly that your conservation efforts must be such as will preserve the maximum amount of intelligent and reasonable competition within the three great branches of the oil industry—producing the oil from the ground, refining it, and distributing it to the public. Conservation CAN be so clumsily handled as not only to restrict competition but even to destroy it. As long as the general business policy of this country is based upon competition then your conservation efforts must be such as to foster fair competition. This is a far more imminent responsibility than most of you probably realize.

Must Protect Consumers

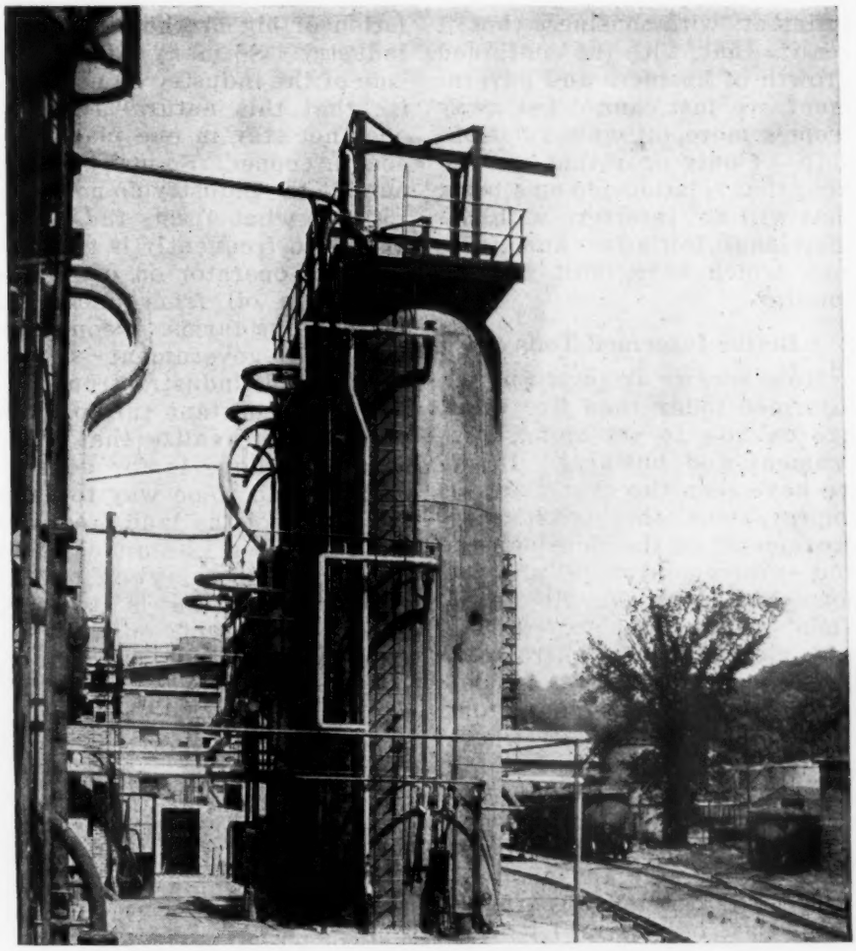
Third: It also is your distinct responsibility—though not your sole responsibility—to see that the users of the products of petroleum and natural gas, through ignorance, misguidance or for other reasons, do not by taxes, regulation, political attacks and otherwise so hamper the production, manufacture and distribution of petroleum and its products, and natural gas too, as to interfere with their proper conservation and profitable development. In other words, you should see that the public of some far off state, by the imposition of excessive gasoline taxes, does not unfairly interfere with and limit the production of oil within your state; or that the public of other states does not tax the products of your crude unfairly in order to favor other power resources within their own borders; or that the federal government does not unfairly interfere with your rights in the management of this natural resouce.

Fourth: Your responsibility also extends, it seems to me, to a proper development and adequate protection of the facilities that produce, refine and distribute petroleum. I mean the oil industry itself. Is it not a part of your obligation to your property holders who have or may have oil under their lands, to your oil citizens and to all those dependent thereon, to see that the oil industry gets a fair deal so far you are able to help? For your own selfish interest is it not good business for you to do all you can as a state and in conjunction with the other oil states to see that this oil industry is kept in as healthy and reasonably profitable condition as possible in order that it can make fair returns to the state of Oklahoma and its citizens for this natural resource?

How would all this be done? Through your conservation officers presumably and through their working with similar officers of the other oil producing states. Possibly the state's oil compact committee might be the place where this defense of the oil industry would center.

Duty of Every Oklahoman

This work in support of the oil industry as an industry, and in aid of getting a proper return to Oklahoma and its citizens for its oil deposits, could also be carried on by your Chamber of Commerce and all other such bodies in the state. In fact, it should be carried on



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by every Oklahoma citizen. He should be a salesman for the oil industry, a salesman interested in seeing more of its products consumed, a salesman interested in seeing that a reasonable price is had for those products, and a guardian who sees that the public outside this state understands and appreciates this oil industry and does not do it harm.

The recognition of this new responsibility of safeguarding the best interests of the oil industry does not call for any great plan of operation, any great organization of secretaries and salesmen nor the expenditure of any amount of money. Perhaps, as time goes on, it may be found desirable to set up some formal organization to carry on this goodwill work for the oil industry which means so much in taxes, wages, etc., to your state and its citizens.

Present conservation officers with their present staffs, aided by your other public officials both state and local and with the assistance of your Chambers of Commerce, can be of great assistance in protecting this Oklahoma industry by appearing before city and state committees that may be considering some measure you would consider against the best interests of the state and of the oil industry. If you and the officers of the state but keep always in mind the thought as to what you can do to protect your own selfish interest in this oil industry, the procedure will work out naturally.

A "Big Brother" Interest

Let me hasten to assure you that decidedly I am not trying to introduce any new "ism" in the already complicated relationship between government and business. I am merely suggesting a friendly, big brother interest in the industry that means so much to this and other oil states. I realize full well that the tendency is that any closer relationship between government and business generally leans to still more relationship and supervision, tending more and more to government control. I personally am for the least possible interference of government with business but I realize that, with the continued growth of business and government, we just cannot get away from a more intimate relationship. I only pray that we can keep that relationship on a basis that will not interfere with the individual initiative and freedom which have built up this country.

Better Informed Today

However, we are much better informed today than five years ago on how to get along, government and business. In oil we have seen the ever growing improvement, the striking improvement, in the development and enforcement of oil and gas conservation in the oil states. Then we had our experiences with more intimate control during the period of the oil code where we certainly found out some things NOT TO DO, where we certainly discovered there are some things that government cannot do for business as long as business continues under private ownership and management. So, with that experience of the past few years, I believe this present generation of oil men and state officials should be able to work still closer together for the good of both and to do a public relations job for the oil industry that is pressing more than ever to be done.

The fact that we should face frankly and promptly is that today, by reason of the very nature and necessity for oil conservation work, we have government control of the oil industry. Another fact that we should also face with open eyes is that such government control will undoubtedly increase. This control today is so great that it affects price. Right there is a new responsibility for your state government or any government that hereafter, by controlling the output of crude oil from the ground, also necessarily influences prices. It naturally follows that whoever controls price will have to defend the price, or should defend the price, to the consumer.

Must Understand Fundamentals

Here is one point that you men from this oil country can help get over to the public in what I hope you recognize as your relation of big brother to the oil industry. So many people outside of the industry do not realize that this natural resource does not stay in one place like coal or copper. So many people outside the industry do not realize that what upsets the oil industry so frequently is the fact that the operator on one farm can drain oil from under all surrounding farms. People say that the government should keep the oil industry from getting in a constant turmoil but they do not realize that what has to be done is for government to find some way to keep the owner of the land from doing what he has been free to do since the discovery of oil 77 years ago, and that is give permission to an oil operator to drain his neighbor's land, or in other words to "capture" this migratory natural resource.

If these critics of the oil industry had farms under which there might be oil, they would have an entirely different view of the matter. Probably nearly all of them would be opposed to conservation to the extent that conservation cut down their today's cash income. These critics of the oil industry, if owners of oil land, would probably be no more interested in conserving the oil supply for posterity 20 or 30 or 50 years off than so many present oil land owners, when these critics learn that such conservation will cost them a great many thousands of dollars cash income TODAY.

A Change in Few Years

If you present this picture of what the man outside the oil industry is going to do when oil is discovered under HIS farm, you will be able to bring home to him the tremendous problems of conservation we have to solve and are solving so well today.

I do not believe too much praise can be given those within the industry and in public office who have had to do with the development of conservation these past few years. Within, say a dozen years, the law and the customs of the previous 65 years of oil industry in this country have been radically changed. In addition, thousands

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of persons in the oil industry and in public office have become converted sincerely and energetically to the ideals of real conservation of gas and oil. Maybe I can be pardoned in saying that the oil industry through its engineers and scientists has developed the technique of finding and producing oil and conserving these deposits, as much as the automobile manufacturers have developed the automobile.

A Transition Taking Years

All this improvement in producing and conservation law and technique has come about, as you know, only after many battles of opinion between engineers and lawyers and battles with Mother Nature. Some 2000 law suits have arisen from the development of the big East Texas oil field alone. We, from the oil industry and from the oil states, should take especial pains to see that those outside of the industry understand the difficulties the industry has gone through in developing conservation. We should give them some idea of what conservation really is, that it seeks to keep the pressure of the gas on the sands forever, if possible, so as to maintain for as long a time as we can the low cost natural flow; and that today's conservation measures not only insure to the general public the obtaining of more oil from the ground, as compared with previous known methods, but that today's conservation methods mean lower cost oil and gasoline to the consumer than would otherwise be true. We cannot be too definite or emphatic about the benefits to the consumer that come from true oil and gas conservation.

Care must also be taken to see that the public does not get the idea that the oil states are "ganging up" on it in their conservation efforts. Nor can the public be allowed to have the impression that conservation is a means of aiding only the oil companies. What the conservation officers and their staffs of engineers are doing on their own responsibility will show the impartial position they really hold.

If not properly informed, the public is quite likely to become critical of the oil industry and conservation when it realizes that conservation also affects price. Regardless of how the conservation laws of our various oil states read, one of the net effects of them is an influence on price. Without these necessary and wholesome laws our flush fields would reduce prices as they have in all these 77 years of oil history. But when the states step in, as they do today, and say to the producers they can bring to the surface of the ground and to the market for crude oil, only so much oil and no more, one cannot deny but what that also affects the price that the market pays for that oil. It is useless for those of us who may not like the idea of government fussing with price, crying over this situation. It just can't be helped. It is a natural consequent of conservation. We can only hope that the influence will always be fairly exercised and that the markets for crude oil will be as free to operate as possible without state interference. But the old days of crude oil ranging from 5 cents to $2.50 a barrel in a few years' time are gone and for good.

However, we probably will not be alone among the country's natural resources in this government influence on price. As the demands of our people and our civilization grow, our government will be giving more and more attention to the efficient production and development and use of our other natural resources.

Power of State Authorities

To those of us interested in oil and gas has been given the honor and the arduous task of pioneering this road of conservation and a natural resource industry's relation with government authority. We, the oil industry and government, have made much progress for which we should receive the thanks of all the people of the United States. But we have not time to bow our acknowledgment to the applause which we should be receiving but are not; for today we are right up against the fact that conservation is actually working. Today we are right up against the fact that the state conservation

officers have the power to turn on the tap a little bit and flood our markets with cheap crude oil and drop the price of gasoline to the consumer a cent or more. Today we know that the state conservation officers have the power to turn off the tap just a little bit, only a few barrels less per well and raise the price of crude oil paid to the citizens of Oklahoma engaged in its production, raise the dollars in taxes collected by the state from this natural resource; raise the royalty that the state and land owners will get; and, what is equally to the point, turning off this tap just a little bit more will raise the price of gasoline to the consumer all over this country, and what then?

Back in the days when all the state undertook to do toward conservation was to see that the oil producer shut off the water from the oil sands and plugged the wells he abandoned, the oil industry had to take the entire responsibility to the public when the market demand got ahead of nature's supply and prices had to be raised on the gasoline and oil that the consumer bought. If there was an outcry, as there frequently was, the oil industry had to explain and its explanations were not always believed nor were they always any too well given.

Out of the Industry's Hands

But today government holds the power that raises or lowers prices, as it is a government officer who in his enforcement of conservation turns on or off the tap.

Today it is your Corporation Commission right here in Oklahoma, the Railroad Commission in Texas and the Conservation Commission in Louisiana that may turn off the tap a bit, or refuse to turn it on more, and thus bring about the next raise in the price of crude oil and hence the next big general advance in the price of gasoline to the public. That advance probably will be some ways off, from the looks of things. At least not this year. But one of these days that new price will be right here and then what will these state governments do toward helping the oil industry explain the advance to the public and to the governments of other states that do not produce oil, and to the government of the United States at Washington, and to the various consumer leagues that undertake to defend the consumer at all hazards and often regardless of cost to industry and producer?

The oil industry most certainly will be "on the spot". So will the governments of Oklahoma, Texas and Louisiana and so will be the whole conservation movement.

Effect on Price Noticeable

Again let me say that I realize full well that conservation is not planned for price but for maintaining the best conditions in the oil sand, but what the public and even those in other branches of the oil industry will see will be price. The state oil conservation commissions and the State Oil Compact Committee may not discuss price in connection with issuing their regulations but the public will talk price.

I am not depicting this quite certain contingency as a dire calamity but I am stating it as starkly as I can so that you of Oklahoma, probably the greatest beneficiaries from the discovery of oil of any state to date, may see this coming happening and be prepared for it. I am stating it thus baldly that you may be able to see and study the other responsibilities that I have enumerated in order that you may prepare for them also, so that you will continue to reap the profitable dollars from having this vast oil industry in your state. Some rather unprofitable head-on collisions with other government authorities are possible from a lack of proper understanding of this tremendous and necessary development of conservation.

Already there are dark clouds over the horizon that may very well be taken as menacing the present price of crude oil. One may quite properly wonder as to how much a lack of clear understanding of the facts of conservation has contributed to the threat.

Right today, while stocks of crude are being reduced, the

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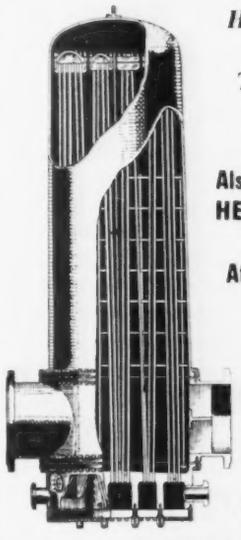

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price of gasoline in tank cars at the refinery is declining here in the Mid-Continent area. That price going down heretofore has almost invariably meant a cut in crude oil price, as the fall of that price means that, regardless of what the statistics of crude oil stocks seem to show, there is obviously more crude oil going to market as gasoline than can be absorbed at the higher price.

Conservation Effective

If we will look back over the record of the past few years since the inauguration of the last oil code in 1933, we will see that the present half-way reasonable price for crude oil is based primarily on the final effectiveness of the enforcement of conservation in the new flush fields of the country. This crude price also unquestionably been favorably affected by the various stabilization efforts made during the period of the late code by the industry in conjunction with the federal government at Washington. In addition, maintenance of the price of crude has undoubtedly been aided by the buying of gasoline in the refinery markets of the southwest by various oil companies. Whether these larger oil companies bought this gasoline to raise the price and bring damage to the independent jobber, whether the purchases raised unreasonably the price of gasoline to the consumer or not, I will and must necessarily leave to the court to decide.

For those of you who may not know, those questions are now before the federal court at Madison, Wis., on indictments against 58 oil men and publishers and 23 oil companies for alleged conspiracy. I am one of the 58 indicted, the charge against me being that I am a conspirator because I printed in my publications the market price which resulted from some allegedly illegal buying. Let me assure you that my plea is emphatically "not guilty".

I am not rying to argue my defense or the defense of the other defendants, nor to suggest that you men and the oil states interfere in our behalf in any way whatsoever. However, the price against which the government complains is the result of the greatly improved and perfected conservation work which has been done here in Oklahoma and Texas the past several years.

Flood of Crude Held Back

Before the code days the pools of your city here—Oklahoma City—and of Seminole in this state, the vast field in East Texas, wrecked our crude markets down even to a dime a barrel. But the improvement in conservation work has been so great that, today, while we still have great flush fields of crude, they are being held back by your state conservation officers. In other words, and I do not think any oil man will disagree with me, were it not for the skill and intelligence exercised in state conservation work today, our crude oil markets would still be flooded, our crude price would still be way down, undoubtedly far less than a half-dollar a barrel and our gasoline markets would still be wrecked with cheap and cut-price oil and we would be increasing competition in this already hotly competitive oil industry.

The extent of the effectiveness of state conservation is shown by the fact that, at the start of the oil code in 1933, East Texas alone was producing and moving onto the gasoline markets of the central west more than 100,000 barrels of "hot" or illegally produced oil a day, oil produced contrary to the orders of the conservation officers. Today the amount of such "hot" oil does not exceed 10,000 barrels a day, if it comes anywhere near that amount. You had a similar situation here in Oklahoma City though the amounts were not so large.

Seized Upon the Code

The chief reason the oil industry seized upon the idea of an oil code in 1933 was that the new floods of oil from this state and from Texas were of such great size that they could not be stemmed under the then meager state conservation laws and conservation enforcement machinery. The code offered a seemingly quick way to halt this flood at once instead of having to wait for a year or more for state legislatures to meet and act. So, on the promise of the federal administration to enforce the code provisions, the oil companies, to save the business situation in the southwest, to save banks and oil companies and merchants dependent upon the oil industry, to bring more revenue into empty state and city treasuries, and to increase pay and payrolls to conform to the administration's recovery plan, arbitrarily hoisted the price of crude on the understanding that such conservation measures in the code would be enforced as would at once "balance supply with demand."

State's Participation

But efforts at federal enforcement were not sufficient. Floods of "hot" oil continued to wreck the gasoline markets of the country. Oil companies paid for the high price of crude out of reserves. Many times they talked of letting the price drop back to a natural level but each time the Washington oil administration would offer new promises and hope of effective conservation enforcement.

In the meantime, through vigorous and intelligent effort, state laws were enacted, tried in the courts and sustained and enforced. State enforcing machinery was organized and perfected and conditions improved. But by the summer of 1934, after the code had been in effect almost a year, conditions were still so bad that, to save the price of crude oil for you people in this state and in other oil states, the government approved a plan to buy up the surplus gasoline that was threatening the crude price. The government refused to approve buying "hot gasoline" but whatever they called it it amounted to the same thing, because it was chiefly the "hot gasoline" that came onto the market that was threatening the price of crude.

The buying was done and the crude price held. Along in here somewhere is where the government's law suit starts as to when the "legal" buying left off and the alleged "illegal" buying began. The price of crude oil has held to the great benefit of every business man, professional man, and everyone

else here in Oklahoma City and the Mid-Continent oil area.

Now as to the threatening storm clouds. The price of gasoline at the refinery is sliding off quite a bit, easily down at the rate of 10 cents a barrel on crude. Maybe with the season decline in gasoline consumption refiners will voluntarily cut back their runs enough to save the price. Or maybe some refiners will continue to force gasoline on the market to find an outlet for more of their crude at present prices.

But one thing, I think is certain and that is, if the price of crude breaks, the conservation officers of the active oil states are going to take a closer look at the figures and, I warrant, tighten up still more on their conservation activities to the end that this great and wonderful natural resource will not be produced and manufactured at a loss to all engaged therein.

Had the Facts Been Known

Had we realized our new responsibilities a year or two ago, might there not have been an effort on the part of the most interested oil states, when the federal government began its investigation that has led to these indictments, might there not have been an effort to make certain that the federal government had the facts; might not the oil states have pointed out to the federal government how the price of crude had been maintained, despite the failures of the federal government to enforce the code, by the states and the oil industry and that, in another little while, the states would be in full control of the situation.

Right here is where you, the oil states, would be acting in your own interests and the interests of the entire country, as well as the cause of conservation, by being the big brother to the industry upon which you are entirely dependent for the efficient and profitable development of these two resources in this state, oil and natural gas. The very essence of "states rights" is the assumption that you know your own affairs far better than can any one as far away as Washington. The success so far of state conservation against the efforts at Washington shows that.

I fully appreciate that great effort has been made by some to divorce talk of conservation from price but, if one accepts the theory that the cheapest place to store crude oil and natural gas is in the ground in their natural state, then, necessarily, conservation in the last analysis must mean keeping those resources in the ground until they can be efficiently and profitably used on the surface and that leads you right into price whether you want to go there or not.

A Future Possibility

However, the day when state government will sit down and study crude production down to the fraction of a barrel against the country's markets and down to the penny on the price per barrel and the eighth of a cent on the price of gasoline per gallon, may be many, many years away. In fact that day may never come, for such minute officiating as to conservation means actually operating of the business of producing, refining and marketing petroleum and all its products. It means government running the business and that also means government running the businesses of all those who supply the oil industry with equipment. We saw during the war how the government's pegging of the price of one product led to pegging prices of all products.

Is not one way to avoid this detailed entanglement of government through conservation with the details of the oil business, to sit down now and study out some such practical, friendly, co-operative relationship with the oil industry as I have indicated? Will not greater knowledge of the oil industry's problems today by you men before me and your state officials, work for putting off the day of such detailed supervision of the business, a supervision I am certain would be obnoxious to all of us?

Is there not some way to be minds open, to avoid such a close personal relationship between government and the oil found, if we start now with our industry as has grown up between government and the utilities, and yet fully protect the public's interest and rights to this wonderful natural resource of ours?

Is not there some way to start today to avoid the bickerings and bitter and unprofitable conflicts that have cursed the relationship between government and the public utilities?

Way Can Be Found

I submit to you gentlemen my belief that some such an intelligent way can be found and that we men of today, after our experiences and education of the past few years, are better prepared to work out such a way than any men perhaps so far in the country's history. That is a pretty broad assertion but I have a lot of confidence in the intelligence and fairness of the American mind when it approaches a subject outside of the heat of battle, and takes up consideration of a subject before any of those who must bear that responsibility have publicly committed themselves on any of these 'isms and so-called European ideas of business.

I submit to you men that the place to start is right here in Oklahoma and in the other oil states, right here in states' rights which you are at present exercising in your oil conservation efforts. You men are personally familiar with this oil industry. I venture nearly all of you are interested in it in one way or another. The same is probably true of most of the state officials and a large number of members of the legislature.

Problems are pressing on this oil industry all over the country in which you can and should give your friendly help, because those problems are pressing back on your crude oil production and on your price for crude oil. Your conservation officers' work will be made easier if they are permitted to see those problems in advance. They will be able to meet them more intelligently when they push their unwelcomed results up in their faces in your state. And bear in mind you are not alone in your interest in these problems, but Texas and Louisiana, and California particularly are also, and other states as their production grows in importance.

One of the most urgent and obvious of those problems is the assessing of ever increasing

gasoline taxes. True, the oil industry through its American Petroleum Industries Committee, of which your former distinguished fellow townsman, General Baird H. Markham, is the able head, is doing an excellent job in trying to keep these taxes down to some reason. Still the battle is a hard one.

There is no doubt, in the opinion of those qualified to know, but that some of these state gasoline taxes today are so high that they are holding back consumption; that they are holding back the buying of your crude oil right here in this city, right outside this window even; that they are pushing back some of this gasoline that is breaking the gasoline market at the refinery and which threatens the price that you men are being paid for your crude oil, or the amount that you get for royalty or the amount you are paid for equipment, or the money that oil employes pay you for bread and butter and meat. General Markham, from his years of study and investigation for the oil industry, can tell you most graphically about the harmful effects of these taxes on the production of crude oil here in Oklahoma City, if he would.

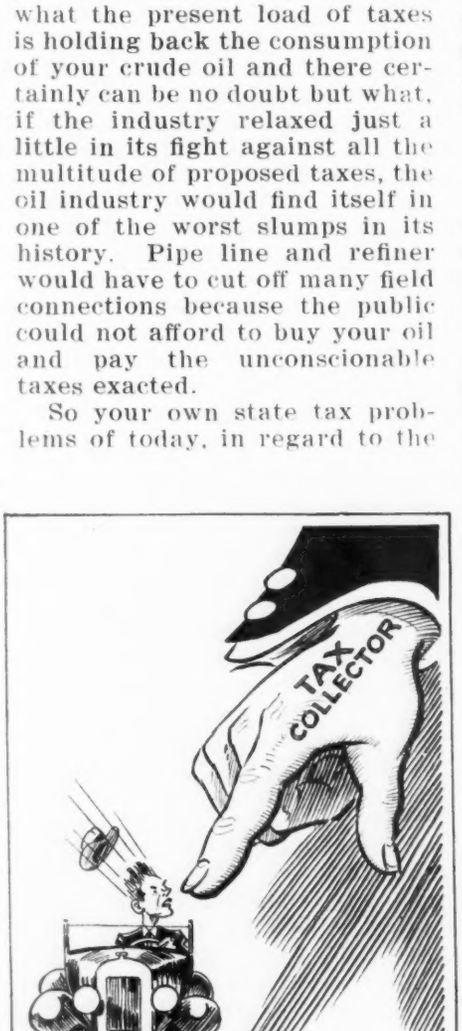
End Is Not Yet

These taxes seldom run less than 5 cents a gallon and they amount as high as 8 and 9 cents a gallon in some of the principal cities of the south, for example. Imagine, out of every 20 cents you pay for gasoline in Mobile, Ala., today, 9 cents of it is direct tax, not counting all the 200 and more unseen taxes the oil industry pays, not counting the taxes paid on that gasoline right here in Oklahoma, while it is still in the crude oil. Imagine 9 cents out of every 20 cents the consumer pays goes to the treasuries of Mobile and the state of Alabama. In Jacksonville, Fla., 8 cents out of every 20 cents is taken by the state for taxes. These are not unusual cases.

The worst of it is the end is not yet. Not a month goes by but, in some town or county or state, an increase in gasoline taxes is proposed by a needy and oftentimes greedy city, county or state government. When a government gets badly in the red its officers generally are not at all squeamish about how they get the money to operate on, just so long as they can get it. For years they have taken advantage of the much vaunted reputation of the oil industry for great wealth to soak it whenever and wherever possible. We object but are always met with the cry of "But look at your Millions." Yes, look at them and then look down all the dry holes of the country, look at the scrap heaps of dismantled refineries, look into the books of most of the filling stations of the country and you will see where a great many hundreds of millions of dollars went from which their owners hardly got an echo. One excellent and conservative economist of the oil industry has estimated that three and one-half billion dollars have been lost from the start of the oil industry, that is lost from investment alone, lost from people's pockets.

There can be no doubt but what the present load of taxes is holding back the consumption of your crude oil and there certainly can be no doubt but what, if the industry relaxed just a little in its fight against all the multitude of proposed taxes, the oil industry would find itself in one of the worst slumps in its history. Pipe line and refiner would have to cut off many field connections because the public could not afford to buy your oil and pay the unconscionable taxes exacted.

So your own state tax problems of today, in regard to the oil industry, should be studied more in regard to what the industry is facing out over the country than just what you may need in the way of more dollars right here. A little more on your taxes here means more that must be asked of the consumer of gasoline in some far off state, and that more may be enough to make the head of the family issue firm warnings that the family car must remain in the garage a few more hours to save expense.



The price of crude oil today is not maintained by the man who buys a barrel of gasoline a day cruising across the country in a Packard Twelve. There are only a couple of thousand of those big cars in the country. The price of crude oil today is maintained by the man in the small light car, of which there are nearly 25 million, who drives the whole day and then only has used 10 or 15 gallons of gasoline. He is the man whose personal income is under $2000 or $3000 a year, the man to whom a cent more on gasoline or meat or bread or milk is a big item.

Broad View Is Vital

When you tax gasoline you are not taxing the rich. No indeed, you are taking it out of the hides of those who can least afford it. When you tax crude oil you are not "soaking" the many million dollar pipe line or oil company though they may have trouble for a time in passing on the tax. You are in fact soaking the man who has just chugged by you in that rickety Ford, loaded with his family going out for a picnic airing of a Sunday afternoon. He pays your crude taxes, your severance taxes, your gasoline taxes and all the rest of the tax load that is placed on the oil industry.

Shall our oil and gasoline taxes deprive that man and his family of their afternoon ride?

I don't want to get you all to weeping for that poor Ford owner and bust up this meeting but with the picture of him I do want to halt your attention to the necessity of, from now on, taking the broadest possible view of the oil industry's tax problem. One cannot emphasize too much that today, and from now on, any and every tax on any petroleum product

will have a direct bearing on the price the citizens of Oklahoma get for their crude oil, will have an influence to reduce the money the land owners get for their royalty interests in oil lands, will tend to restrict the buying power of every oil man, every oil land owner and every employe of any of these in this state and will tend to and even actually reduce the money that the state receives from its various taxes on oil and its interest in oil lands.

For the oil states to do the job they should for themselves and their people and to get the most in public good out of this natural resource, you must study the whole industry's relation with the buying public. Then you will come square up against the fact that your own conduct and attitude toward the oil industry will have much to do with the conduct of other states and city governments toward the industry.

If, perchance, an oil state should undertake to squeeze the last penny out of the industry within its borders, regardless of the effect elsewhere, that, I am certain, will but be pointed to by other states and other cities as justification for soaking the oil industry some more. The result will be less and less crude oil sold. Unquestionably, the oil and gasoline tax laws that you adopt in this, an oil state and in this an oil city, will carry considerable weight in the considerations of the legislators and the members of the councils elsewhere when they too consider oil and gasoline taxes.

Must Set Example

And how much more careful must you be in your own acts when these other states and towns and the general public come to realize that the price of oil and of gasoline is so largely affected by the conservation policies of the oil states?

Scrutinizing your every act that affects price will also be various consumer organizations over the country, such as automobile clubs, buyers groups and particularly the Consumers Research Councils, or whatever they call them, that have a general headquarters at Washington financed by one of the many alphabetical funds there. These consumer organizations, while quite laudable in their purpose, are not always any too considerate nor intelligent in their comments on industries and prices. These will jealously guard the consumer's interest not only against industry but just as quickly against a state government's benevolent efforts.

What the oil producing states will have to watch most closely, now that they are restricting production to the market, is the encroachment of other fuels and powers on the field of petroleum products. Here again price will be the dominating factor. A price built up by too stringent a conservation policy and too many and too high taxes at home and abroad, will not only invite but guarantee the substitution of other means for petroleum products and they are not without the realm of substitution either.

Will Bring Substitutes

We have heard much of late years from grain growing states about by law forcing the general public to use a percentage of alcohol in its motor fuel. Despite protests of engineers as to the greater cost and less efficiency of this mixture, the grain growing interests persist. When the price of gasoline gets high enough, if not sooner, the pressure for mandatory use of alcohol by automobile owners will become greater and, should it succeed, it will of course reduce the market for petroleum products.

Right now coal is coming rapidly back into its own as a heating fuel, particularly in the small home. It is displacing oil and gas where those products are cheap. The coal industry, as such, has been fighting the oil industry, trying to get it taxed out of the heating market entirely and the coal people have been none too gentle nor scrupulous in their efforts, being most desperate from years of heavy losses and poor business.

Coal's Competition

But equipment manufacturers are solving the coal problem, which suggests that the coal industry would have been much further ahead today had it spent less time and money fighting oil and more time and money developing more efficient means of using coal. Today there are new scientific and highly efficient automatic coal stokers for small and large homes and for small and large factories, that make burning coal not only most economical but truly a pleasure. Homes today are being heated with these new coal furnaces, automatically fired and thermostatically controlled, so that they are just as clean, warm and almost as easily taken care of as if heated with natural gas or oil and the cost is a great deal less. The oil industry will have to watch sharp against this new and highly intelligent competition of coal. This too is one of the factors that conservation officers will have to keep in mind as they set the quotas of future years, if not even of future months.

There also is increasing competition against gas and, in the country, kerosene and distillate, for cooking and heating from electricity. More homes every day in low cost natural gas areas are putting in electric cooking stoves. This use of electricity is being developed and pushed by the federal government with all its water power projects. The nub of this is that the federal government today, by enormous low cost loans and subsidies, is aiding in displacing gas with electricity. As these government power projects increase in size and scope they will come directly in competition with the natural gas from your own fields of the southwest.

Statesmanship Needed

There also will be the competion of other oil fields in other states, new fields for instance. Such competition we have been conscious of for several years. The industry hopes that the problems arising from it will be solved without letting the federal government act as a policeman, at most only as an arbiter, which is about what it is doing today.

The solution of this problem of competition of new fields calls for the highest type of oil and conservation statesmanship. We had a flare of it here the other winter when the new fields of Michigan were looming up so strongly. A group of producers there, mostly new to the oil industry, successfully fought off the effort of conservationists to

have the legislature enact a sensible conservation statute. This group even went so far as to insist that Michigan was entitled by right—what right they did not say—to be allowed to produce from its own fields all the oil necessary to supply all of the state's gasoline and oil and other petroleum requirements. They went further and insisted it was only good business that Michigan have its own refineries to take care of its own market.

Just how this competition between states, especially between present oil producing states and a new oil producing state will be worked out, will have to be left to the intelligent study of the problem by the various states' conservation officers. Perhaps the conflicts can be worked out without Washington having to take an arbitrary hand in the matter. Certainly the more the conservation officers of all states study the picture of the oil industry in the consuming markets, the better chance there is for the conflicts between states being amicably settled and to the best interests of the people and of the oil industry.

To Promote Competition

There is another responsibility crowding rapidly to the fore that I know you have not thought of nor heard of. It is now coming to light The people most interested are realizing the effect of conservation on them and some are beginning to talk about it. I refer to the responsibility that I think devolves on state conservation officers, just as it devolves on the state attorney's general, to maintain and promote competition. I mean, of course, sane and reasonable and American competition.

The trouble comes about because the more you undertake to restrict production, for instance, to "market demand" the more particular you have to be in your definition of market demand and the more accurate you must be in measuring that demand, not only in volume by barrels but in dollars and cents profits to the state and to the oil producers and land owners, the royalty interests.

Competition in the oil industry with the old line companies has come about very largely with the discovery of new fields of production which proffered, for the most part, unwanted oil to the existing market. New refineries would at once spring up to refine this oil and then new oil jobbers and distributors would come into existence to pass it on to the consuming public. Due to the simply tremendous growth in the use of the automobile and to the great growth in other internal combustion engines, these new fields and refiners and jobbers were easily absorbed into the industry. They generally caused some low price periods and they worried the then existing companies, but to date the market has grown up around them.

Oil Industry's Early Days

This growth of competition has come in spurts with almost every big field or group of fields. When I first came to Oklahoma almost 28 years ago, the shallow sand fields in Kansas and around Bartlesville and the then big Glenn Pool field had brought in some puny refiners and they brought to life a few hundred oil jobbers. Automobiles then numbered way less than a million.

The old Cushing field, nearly 25 years ago was the greatest builder of competition probably of any single field. Cushing in six months, went from nothing up to 350,000 barrels a day of good oil with an easily recoverable large gasoline content. But the automobile business was growing most rapidly then. The big and old line oil companies could not take on all of Cushing's oil, so a lot of independent refineries grew up overnight and with them many jobbers up north. Here, I think, was the first effort at conservation through proration, holding back production, and this was done voluntarily and, of course, only with some modest measure of success.

Brief and to the Point

County Clerk Stokes today had what he believes is the shortest and bluntest tax protest on record. a letter from W. H. Case, division superintendent of the Gypsy Oil Co. The letter said: "Dear Sir: I want the cost of government reduced." — From *Tulsa Tribune*, Sept. 29.

Since those days has come a big oil industry consisting of the old line companies, some of them not very old at that, a couple of hundred and more independent smaller refineries and some 10,000 independent jobbers, men who own their own bulk plants, buy in tank cars, and sell through their own stations and through dealers.

The Jobber's Position

It is this last, the jobbers, who are beginning to get uneasy about conservation as it is practiced and as they individually come to understand it. Only a few of these jobbers are critical so far and then only in the last few months but the uneasiness is spreading rapidly. Only the other day, I understand, one prominent and able independent jobber told the Department of Justice that if it "had any guts" it would recommend the repeal of the Connolly "hot" oil law.

Neither this jobber nor any of the others are opposed to true conservation, whatever that may be. They are just as patriotic as any American citizens and they have just as high regard as any for the country's natural resources. But they see in the present practice of conservation a threat to a free and open tank car market, a threat to the existence of the independent refiner and hence a threat to their own existence.

While the oil trade papers have printed millions of words about conservation and its operation these jobbers have read practically none of it because it was all too technical for them and, up to the present time, did not seem to have any definite relation to them. However, since the coming of the code, the tightening up on refinery operation under the refinery gasoline allocation plan of the code, since the "official buying program" of 1934 and since the more recent buying—whatever it may be—of gasoline at the refinery, and since the perfection these last several years of real oil conservation by the oil states, the jobber has begun to feel a tightening of his sources of supply and he is protesting. They were his protests that prompted the Department of

Justice to make the investigation which so far has produced the indictments against 58 oil men and 23 oil companies. So you see the jobber can make himself felt and heard in the counsels of the oil industry, just as Independent groups have made their protests heard nearly all of the three quarters of a century the oil industry has existed.

The jobber, of course, does not understand the problem of the producer nor the job of conserving our natural resources that is being done. He will learn but his understanding can be greatly increased by the friendly co-operation of the state conservation officers with the industry. The jobber cannot be brushed aside in this matter. Conservation may not seem to be down his alley but the effect of it is and he is entitled to have his say and he will have it. Furthermore, if there should be any lack of co-operation with him, he will be defending his interests through enlisting the assistance of governments of other states and of consumer organizations, automobile clubs and the like. The independent jobber, like every other group of independent oil men these past 70 years and more, just as have the various groups of independent producers hereabouts, can become a most formidable antagonist when he is aroused and he can enlist much public and governmental aid.

A Difficult Problem

The jobber's problem is a difficult one. Certainly competition cannot be guaranteed by deliberately creating occasional floods of unwanted oil. Nor on the other hand, can conservation be so strictly interpreted and enforced as to make it impossible for any one to produce a barrel of oil unless the buyer of the crude holds in his hand signed contracts from enough actual consumers—automobile owners—to burn it up. Somewhere in between is the place where the new statesmen of true oil conservation will have to wend their way.

A final word on what this industry that you are conserving —and I mean industry as well as natural resource—means to you. I shan't bore you with a lot of statistics, but let me give it to you in a nutshell so you may visualize more clearly than perhaps you have just how valuable to you, the citizen in the street, this vast industry and its deposits in this state are:

What Oil Means to Oklahoma

Last year $185,000,000 was paid to oil producers in this state for oil produced here.

Producing wells to the number of 1321 and 579 dry holes were drilled here and most of the cost of these wells flowed through your usual business channels.

During recent years more than 6 million acres have been kept under lease here, or 15 per cent of the state's acreage.

To get and carry this acreage as oil leases there has been paid out to the land owners and holders of oil rights an average each year of $32,000,000 for bonuses, $6,000,000 for rentals, $36,000,000 for royalties.

Bear in mind this is extra money to the land owner, over and above his usual crop. During the present drought period, in some cases, this has been the only cash income of the land owner.

More than 4 refineries are operating, employing more than 5000 persons with a payroll of more than $7,000,000 a year.

There are some 400 oil companies and independent jobbers of petroleum and its products in the state.

These supply 5342 filling stations that sell almost 40 million dollars a year of products and accssories.

In addition, the industry paid to the county road funds in the fiscal year just ended nearly $6,500,000.

From oil and gas on school lands the state school fund this present fiscal year received $15,000,000.

I submit to you gentlemen these thoughts for an extension of your abilities as business statesmen, an extension of your efforts for conservation of your natural resources to the conservation and protection of your industries that are developing these resources and bringing in the dollars that make your state prosper.

I particularly ask your brotherly attention to the oil industry, the industry that has brought great wealth to your state, that has brought to it some six billion dollars since the discovery of oil here, the industry that has developed and today is helping maintain your largest cities as well as scores of your smaller towns; the industry that has supplied many of your biggest businesses and particularly many of your foremost citizens.

The oil industry will only be here once, as long as the supply of crude oil lasts. You may never get another like it. By reason of the greatness of this oil industry have come to your shoulders these new responsibilities of which I have spoken. I know your shoulders are broad enough to carry these new obligations and I know that the heads above those shoulders are capable of successfully meeting and solving the problems that these responsibilities also bring.

A still greater and more profitable oil industry means a still greater and more substantial Oklahoma.

Sun to Run Western Crude at Toledo

PHILADELPHIA, Sept. 26. —Sun Oil Co. today announced that it will run western crude instead of Michigan crude at its Toledo refinery. The company has relinquished its source of supply for Michigan crude and has arranged to pipe crude from Marcus Hook, Pa., to Toledo.

Tankers will bring crude from Gulf ports to Marcus Hook from where it will be sent via pipeline to Toledo. In addition, the company has marine connections at the Toledo plant so that tanker shipments could be made from the Gulf to Toledo should they be needed.

The steady decline in production of Michigan crude in relation to the Toledo refinery's capacity was given as one reason for the change.

An information booth in a downtown park in Claremont, N. H. Cost of maintaining this booth, for promotion of travel in New Hampshire, is shared by the state and city

Among New England Marketers

Water Terminals Change Jobber Buying Habits—From Burner Sales to Air Conditioning—Diesel Oil Sold in the Mountains — Old Electric Advertises Station

By **E. L. BARRINGER**
N. P. N. Staff Writer

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WATER transportation is an old story to New England marketers within a hundred miles or so of the coast. In view of general recent developments of inland waterways, the question arises as to whether, in the middle west, waterways eventually may not change present transportation methods for petroleum products of jobbers and even possibly do away with the present Group 3 price basis.

In New England, jobbers are trucking gasoline a hundred miles and more from water terminals. For shorter inland hauls trucking from terminals to land bulk plants has cut heavily into railroad tank car movement from terminals.

The market situation at one New England coast point illustrates the significance of these water terminals in the jobber buying of petroleum products. At this particular New England city there are nine water terminals, receiving shipments by ocean tankers or barges. The closeness of other large cities, also having water terminals, limits the marketing area, but in the surrounding 50-mile territory all petroleum products pass through this port.

Jobbers used to buy in tank car lots, f.o.b. the terminals at the port. Now they buy most of their requirements in truck tank lots. Jobbers shop around among the terminals, looking for a favorable price, and they do a considerable amount of shopping.

The usual minimum order is three or four truck loads. That means from 9000 to 12,000 gallons, state highway requirements limiting a load to about 3000 gallons. If the market is particularly advantageous, or the jobber wants to fill storage at his bulk plant, he may place a larger order.

To get products from the water terminal to a land bulk plant the jobber hires the services of a contract hauler. The jobber has found that operating his own transport unit is not profitable, as the unit would not be in service a sufficient amount of time to keep down costs. The transport trucker can move products cheaper. Usual rates are a minimum of .25 cent a gallon for a haul from 10 to 15 miles from the water terminal. Beyond this range the rate is a mill a mile, making a 50 mile haul, about .5 cent a gallon.

And transports are busy hauling products from the water terminals, especially during the winter, when range and fuel oil consumption are at a peak.

The jobber is concerned with two factors in this transaction. First, is the price per gallon at the water terminals; second, the transportation cost.

Also, two deals are involved. The purchase is made from the terminal, a transaction between the company operating the terminal and the jobber. Then there is the deal between the jobber and the transportation company to haul between the terminal and the bulk plant. The terminal company meters the products into the truck tank, and the jobber is invoiced on the meter reading.

Predictions are risky affairs at best. Yet, in view of developments along the Mississippi river waterways, it would seem logical that some day these waterways may be dotted with water terminals, just as terminals are the basic storage in the east, to take advantage of the lower costs of bulk movement of oils by water.

When that day arrives Chicago and Tulsa may decline as market centers for midwestern jobbers. Instead of thinking of purchasing in tank cars, f.o.b. Group 3, these jobbers may shop around at one or two terminal points along waterways in their territory and arrange with transporters to haul products between the terminal and the jobber's bulk plant.

* * *

AIR conditioning equipment has been added to the line of the Goodrich Oil Burner Mfg.

Co., New Haven, Conn. Raymond H. Goodrich is head of the oil burner company, while his father, Walter Goodrich heads the Walter H. Goodrich Oil Co., New Haven.

Although this was the first season for air conditioning equipment the company made sufficient installations over the summer to justify looking forward to a splendid season in 1937. By next year competitors of stores and offices that were air conditioned this year will be in the market, Mr. Goodrich reports, so the first year has been pioneering work.

Air conditioning equipment, in Mr. Goodrich's opinion, fits into an oil burner sales company's line, in providing a year-round program. The peak in air conditioning sales begins shaping in the spring, when burner sales are slumping. Then burner sales begin mounting at a time when air conditioning equipment sales are going towards the year's low point.

For the jobber selling oil burners as a complementary line to his fuel oils, Mr. Goodrich believes air conditioning equipment sales are not so important. However, for the jobber who has established burner sales as a separate enterprise from fuel oil sales he believes air conditioning equipment is a logical line to handle.

* * *

THE state of New Hampshire encourages travel by automobile with information booths along the highways. An attendant is at the booth from July 1 to Labor Day, to offer advice and give information. Half of the cost is paid by the state, the other half by the local community, so any town or city can have a highway information booth by producing its necessary portion of the cost.

This diesel oil sign above the lubrication sign attracts much attention from motorists stopping at Bert's Station, North Creek, N. Y.

The booth at Claremont, N. H., is at a corner of the park bordering on the business section, and the motorist has no difficulty parking as the roadway in front of the booth is clear.

The attendant has information about highways and road construction, and the various points of interest in the state. Verbal information can be augmented with literature on resorts and highways.

* * *

DIESEL oil is beginning to take its place with gasoline as a motor fuel, and the A. & B. Oil Co., North Creek, N. Y., is distributing this product as a truck fuel to dealers along the valley.

The oil is carried at stations in 55-gallon drums, filled by the company's tank truck. Several trucks operating in this area burn diesel oil, so the company is stocking it at dealer outlets.

Even if automobiles this year still burn gasoline the sign announcing diesel oil for sale attracts attention Bert's Station, a dealer at North Creek, reports.

* * *

NEW ENGLAND retailers are alert to the possibilities of attracting attention of passing motorists to their station by having some novel object on the drives.

Charlie Gagnon, operating a station in Manchester, N. H., on the road to Boston, obtains considerable advertising value from an electric automobile of ancient vintage.

The auto, a 1903 electric runabout, had been parked in a barn since 1913, but several weeks ago was part of property put up at auction.

Gagnon forgot all about automobile blue book valuations and purchased the auto on a bid of $100. Then he moved the ancient vehicle to the broad drives of his station, along the curb where the highway makes a sweeping curve.

An offer of $200 has failed to appeal to Gagnon so the auto still stands on the drive, worth in his opinion much more than that through advertising the station. Motorists are attracted to the station, drive in to inspect the car, and many buy gasoline. It is frequently photographed.

The ancient car would produce some revenue on the side, if it could be operated. Gagnon has been offered $5 a week if he will run the car down Manchester's main street each Tuesday to advertise the Tuesday night wrestling matches.

A 1903 *electric auto that pulls in gasoline at the Gagnon station at Manchester, N. H.*

Car's Appearance and Safe Driving Key to Station Sales Effort

WORCESTER, Mass.

By **E. L. BARRINGER**
N. P. N. Staff Writer

SERVICES pertaining to appearance and safety of the automobile are featured at the one-stop station of David Daley, oil marketer at Worcester, Mass. For appearance there is car washing, polishing, waxing and motor block cleaning. For safety there is lubrication, crankcase draining, mechanical repairing and an authorized state inspection license.

With the station specializing in servicing, the sales effort is directed to the type of car owner interested in maintaining the appearance of his car and in keeping it in a safe driving condition, and also wililng to pay the price for such services. Such customers are obtained through outside sales calls, through solicitation in the station, and through the company's reputation in serving the second generation of car owners.

Location of the station, near the city's business district, is considered by Mr. Daley a factor in attracting this type of customer. The station is a block back of the postoffice, near some prominent stores, but a half-block off the main business street, so the location is convenient yet out of heavy vehicle traffic and customers have no difficulty in driving in.

The location also produces three shifts of customers who leave their automobiles for servicing and call for them later. The first shift is in the morning. These customers are professional or business men, who pick up their cars at noon.

By the time the morning shift of customers has cleared out of the service department the second shift begins coming in. These customers are women, entering the business district to shop or attend the afternoon movies, meanwhile leaving the car at Daley's station for servicing.

The third shift is at night, the dinner and theater customers. Cars on this shift begin coming in during the dinner hour as wives drive to the business district to meet husbands, or the family drives in after dinner, and this shift moves out after the theater.

Overnight the station services commercial vehicles. The trucks are regular customers, providing business when automobile traffic is naturally light. One department store, for example, has its fleet in the station one night each week for chassis lubrication and washing. Every 1000 miles the crankcases are drained.

Sales work outside the station is conducted by Mr. Daley and one salesman. The customer card file provides names of motorists who have stopped patronizing the station and personal calls are made to renew this business. New business is sought also through personal calls, especially on new residents in Worcester. The approach on new customer business is through a solicitation to patronize the station for gasoline and motor oil. Then the station service department manager endeavors to sell appearance and safety services.

The two-man sales organization also handles the company's wholesale department in distribution of White & Bagley Co. lubricants to the automotive and industrial trade. The territory covered is some 20 miles around Worcester.

Additional sales work at the station is performed by the service department manager, who greets customers and takes the

Drives of Daley's one-stop station in Worcester, Mass., showing signs advertising brake and headlight testing service

Lubrication department at Daley's one-stop station. Over 35 drums of lubricants are used on these two pits. Signs are suspended from the ceiling advertising station's various services

work order. Mr. Daley emphasizes the lack of "high pressure" sales tactics as being unsuited to the type of customer patronizing his station. Instead, the manager sells by knowing what the customer's car needs and suggesting such a purchase.

When a customer drives in the manager is not looking over the car to figure out what can be sold, then turning on the sales heat. Most of the trade is from regular patrons so the manager is familiar with the customer's timing of purchases, such as crankcase draining, gear lubrication, washing and polishing and other services. Also, the customer card index can be checked to know when a customer may be in the market for a service. When the manager finds an opportunity for a sale of something not specified on the work order, the customer is reminded of his need for it, with the suggestion that at some convenient time the car be returned to the station.

The station also has a department for mechanical repairing of automobiles. Heavy repair work is not undertaken, in such cases the customer being advised to patronize a regular service garage. Light repair work, however, can be performed and, as Worcester has a number of automotive parts jobbers, the station does not stock parts.

For automobile safety the station has lubrication service and the state licensed safety lane. Lubrication is one of the station's specialties and the customer list contains many names of car owners who drain the crankcase every 1000 miles, buy chassis lubrication regularly, change gear lubricants every 5000 miles, and flush the crankcase frequently. Also, semi-annual motor block cleaning is advised as a safety measure in preventing fires.

The safety lane was one of the first licensed in Worcester, and is busy twice a year. Massachusetts has a compulsory automobile inspection law, requiring semi-annual check up on brakes, lights, muffler and other operating conditions. Service stations and garages are licensed to perform such inspection. Two months are set aside for this inspection, one in the spring the other in the fall.

During the two inspection periods the safety lane is set up along the rear of the service department. Other months this space is used for storing cars before and after servicing. The headlight testing space is permanent, with black curtains surrounding the car, so that tests can be made during the day.

The inspection department produces income in its own right, and also advertises the station. A maximum charge of 50 cents per inspection is permitted under the state law, and this is the standard charge in Worcester. Then there is the income from rejected cars, such as polishing headlight reflectors, selling new bulbs, adjusting brakes, and so on. The advertising value is in bringing new motorists to the station, who may become permanent customers.

Mr. Daley has specialized on services pertaining to car appearance and safety, rather than on automotive merchandise based on previous accessory experience. At one time the station handled accessories in the service department. These accessories, he found, were subject to considerable retail price cutting and inside deals, making the business unattractive. Customers would take advantage of inside prices and buy tires elsewhere, yet patronize the Daley station for car washing and polishing, and lubrication service.

In view of customers splitting business Mr. Daley decided to eliminate the merchandise part of the station's business and concentrate on services. In considering the manpower required, sales effort, inventory, and floor space needed to sell merchandise, compared to the same factors in selling service, Mr. Daley believes concentrating on services produces a larger return.

Form New Jobbing Company

ROCHESTER, N. Y., Sept. 29.—The Lakes Petroleum Co. has been organized here to distribute Pure Oil Co. products in and around Rochester. Organizers of the new company are "Chan" Emery and C. S. Gill.

Mr. Gill resigned as district manager of Pure to form the new company. Formerly he was district manager for Vacuum Oil Co. in Ohio and western New York. Mr. Emery recently has been with Gulf Refining Co. and before that with Colonial Beacon Oil Co.

New Gyro Damage Suit Filed In Detroit

DETROIT, Oct. 7.—A new $30,000,000 damage suit was filed Oct. 6 in Wayne County circuit court by Walter F. Tant, of Detroit, against the same companies and individuals sued by Ruben Ravelle, of Toronto, recently, on the Gyro cracking process. Ravelle's suit was dismissed Oct. 3 for want of jurisdiction, by Judge Tuttle, of the federal district court.

Tant alleges misuse of the patents of the Gyro process by the defendant companies and individuals, and claims that this sum is due stockholders of Chemical Research Corp., of which company he claims to be a stockholder, owning 1700 shares over a period of several years. Ravelle's complaint was dismissed on the grounds he was not a stockholder at the time the irregularities he charged were alleged to have occurred, as well as for want of jurisdiction.

The defendants are: Standard Oil Co. (Indiana); Standard Oil Co. of New Jersey; Standard Oil Co. of New York; Standard Development Co.; Gulf Refining Co.; Alco Products, Inc.; The Texas Co.; Gyro Process Co.; Gasoline Products Co. and the individuals Frank S. Beall, C. B. Watson, Joseph Davis, H. H. Emmons and Henry M. Dawes.

Oil's Credit Managers To Hold Conference

TULSA, Oct. 10.—The Petroleum Refiners Division of the National Association of Credit Men will hold its annual conference Nov. 5, 6 and 7 at the Elms hotel, Excelsior Springs, Mo.

While full details of the program have not been worked out and acceptances received from some of the invited speakers, a prominent part on that program will be devoted to a study of present day economics as it relates to business and credit. A study of facts, figures and data relating to credit sales will be presented.

All recent legislation which is or may have any effect on credit will be discussed in detail.

The conference is under the direction of a board of governors, composed of the following: E. W. Hesse, Phillips Petroleum Co., Bartlesville, Okla., chairman; O. W. Crick, Danciger Oil Refining Co., Tulsa, vice chairman; H. E. Butcher, Cities Service Oil Co., Chicago; Webb R. Charles, Globe Oil & Refining Co., Wichita, Kans.; J. D. Powell, Skelly Oil Co., Kansas City; W. L. Reed, Shell Petroleum Corp., St. Louis; W. M. Watson, Socony-Vacuum Oil Co., Inc., New York, and R. A. Colliton, secretary, National Association of Credit Men, St. Louis.

John Wolf Dies

MINNEAPOLIS — John M. Wolf, manager of the Fairmont division of Cities Service Oil Co. and old time jobber, died Oct. 7 in a Minneapolis hospital. Services were conducted at Fairmont Oct. 9.

Mr. Wolf was a former president of the Minnesota Petroleum Association, and a director in that association and its successor, the Northwest Petroleum Association. As an independent, he started the Southern Minnesota Oil Co. at Fairmont many years ago. Later he sold his properties to Cities Service and remained as manager.

Pan American Launches First of 4 Tankers

BALTIMORE, Oct. 9—Pan-Amoco, first of four new oil tankers to be built for the American Oil Co. by the Pan American Petroleum & Transport Co., at an approximate cost of $7,400,000, was launched Sept. 25 at the yards of the Sun Shipbuilding & Dry Dock Co., at Chester, Pa.

This company is building a sister ship, to be launched the latter part of this month and the two others are being built by the Federal Shipbuilding & Dry Dock Co. at Kearny, N. J., one to be launched in October and one in November.

The Pan-Amoco is 502 feet long, 68 feet beam and has a deadweight capacity of 15,400 tons and is capable of carrying 5,250,000 gallons of petroleum products in each trip. The main machinery is double reduction geared turbines, developing 4000 shaft horsepower. The discharging equipment will allow the entire cargo to be moved from ship to tanks on shore in 18 hours.

This vessel and those being built will be in continuous service of the American Oil Co. conveying petroleum products from refineries at Texas City, Texas, Savannah, Ga., and Baltimore to its 15 ocean terminals extending from Portland, Me., down to Galveston, Texas.

Construction of the four tankers is part of this year's investment by the Pan American Petroleum & Transport interests for added necessary facilities, amounting to over $19,000,000 all told. Other expenditures are for additions to the Texas City refinery, for new water terminal facilities and marketing improvements.

The Pan-Amoco was christened in the traditional manner by Mrs. Jacob Blaustein, wife of the president of the American Oil Co., and daughter in law of Louis Blaustein, founder of the company and chairman of its board.

Record Travel Season For National Parks

WASHINGTON, Oct. 10.—Visitors to American national parks and monuments during the travel-year ending September, 1936, numbered 9,929,432, or about one-fourteenth of the total population of the U. S. This was an increase of 70 per cent over 1935.

Travel by private automobile also set a new record, with 1,772,338 private cars visiting national parks and monuments this year as against 1,217,054 in 1935, according to data collected by the National Parks Service.

Parks in the eastern portion of the U. S. were the highest on the travel list. The highest total was scored by the newly-established Shenandoah National Park, in Virginia, which was dedicated July 3, 1936. This park had 694,098 visitors. Next in rank was Great Smoky Mountains National Park, on the border of North Carolina and Tennessee, with 602,222 visitors.

Leading in the West were Rocky Mountain National Park, Colorado, with 550,496 visitors.

ADVERTISING PAGES REMOVED

Lubrication of Hypoid Gears

Problem of 1937 Models

By **JOHN W. THOMPSON**
N. P. N. Staff Writer

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AUTOMOBILE dealers are not the only ones buying railroad tickets to Detroit these days. Oil men, their pockets bulging with samples of extreme pressure lubricants, are waiting outside the automotive technicians' doors, to tell of the qualities of their individual products.

The oil men want to know what the automotive technicians want to lubricate the hypoid rear axles in their 1937 models. The automotive technicians cannot tell them finally, for the reason that they do not themselves know.

True, hypoids are not new. They have been lubricated successfully for some years now. The new feature of the problem is how to lubricate the hypoids on the 1937 Packard Six and the Chevrolet. While Chevrolet's engineering department is still insisting that hypoid rear axles on its new cars are only a rumor, the factory has taken the matter in its own hands and gone right ahead to install them.

It is known the rear axles of this type on the Chevrolet and Packard will require a very active or powerful type of hypoid gear lubricant. The reason for this is that the set of gears on these two jobs is somewhat smaller than the hypoids on other cars. The smaller the gear, or tooth surface, the greater the pressure on that tooth per unit of area, and the greater must be the load carrying properties of the lubricant.

The realization by the automotive engineers that they had developed something in this high pressure hypoid that offered some headaches from a lubrication standpoint, did not hinder its progress. So now automotive and oil history repeats itself, and we again find the car makers with a new development and the oil companies hurrying to catch up with it.

A number of oil companies have reported that General Motors has issued a set of tentative specifications covering their requirements for hypoid gear lubricants, but these are subject to sudden change. However, this General Motors gesture put a new gleam in the eyes of oil companies, for it is the first hint to come from any automotive group that might even suggest the type of hypoid lubricant desired.

In both the General Motors and Packard camps, however, the commanding officers will recognize no countersign from any hypoid lubricant manufacturer without first scrutinizing carefully the credentials of each lubricant. In the case of Packard and Chevrolet particularly, road tests are the final answer whether or not a certain hypoid lubricant is approved or rejected by the manufacturer.

The car manufacturers claim their inability to find sufficient proof of the general availability of the proper lubricant is forcing some of them, for their own and their customers' protection, to take their hypoid axles to their car dealers, where they will be serviced with a type of hypoid lubricant known to be satisfactory by the car manufacturer.

It's an ill wind that blows nobody good, so the oil companies can expect, in some cases at least, to find this "see your car dealer" service used as an argument to bring the car owner to the car dealer for a complete lubrication job.

Up until this year Packard has distributed its own hypoid lubricant through its dealers, with instructions to the car owner to go to the Packard dealer for rear axle lubrication. For next year Packard is altering this policy to the extent of recommending to the car dealer a list of six or seven brands of hypoid lubricants it has found to be satisfactory, and then letting the dealer choose from the list the ones he wishes to stock.

Lubrication engineers of some of the large oil companies are inclined to favor the car manufacturers' policy of urging the car owner to see the car dealer for lubrication of hypoid rear axles, admitting that oil companies in general are not yet ready to offer the proper lubricant for a sufficiently wide distribution, particularly since some of the manufacturers are undecided as to what type of lubricant they think desirable.

The chief difficulty, as has been stated many times before, is that the car makers will not know definitely how a certain lubricant will react to its hypoids until the cars have been on the road for some time.

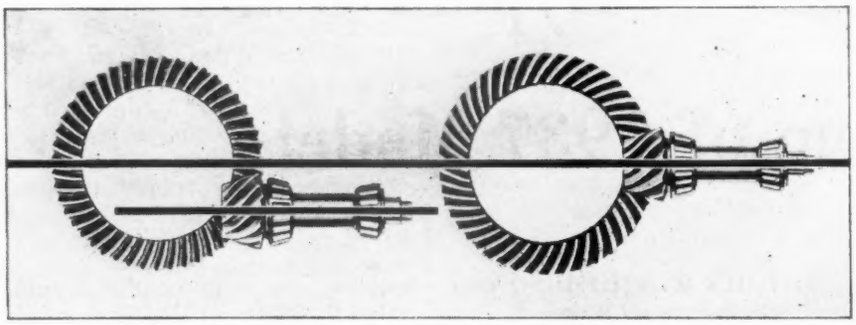
In the absence of a generally accepted extreme pressure lubricant testing machine and the resulting inability to arrive at any definite set of E.P. lubricant specifications, the situation is at present a trial and error

1937 Models with Hypoids

The following cars are expected to be equipped with hypoid rear axles in 1937:

Buick—	Dodge
40, 60 series	Hupmobile
Cadillac	LaSalle
Chevrolet	Packard
Chrysler	Pierce Arrow
Cord	Plymouth
DeSoto	Studebaker

The hypoid rear axle shown at the left was introduced primarily to permit the car designer to build the car closer to the ground. Compared with the conventional spiral bevel axle at the right, it illustrates how the drive shaft can be dropped, making possible a lowering of the entire car body



proposition. The oil companies try to make the proper hypoid lubricant, and the car manufacturers discover the errors in it.

In general, it is claimed that the best type of hypoid lubricant is one which consists of a mineral oil with a lead soap base and with a small amount of sulphur added. The sulphur is added to serve as an anti-welding agent.

While this is serving as a temporary type of lubricant, it is by no means considered as the final answer to the problem of hypoid lubrication. In the first place, this mixture runs quite hot in service, and in the second place, the lead soap, when heated combines with the sulphur to make lead sulphide or other compounds which precipitate out of the lubricant, leaving it no E.P. properties. The car manufacturers would like to believe that the break-in or run-in period of the hypoid axle is the most critical of its entire life. They have not been able to actually prove this as yet, however.

Plymouth, another hypoid user scheduled for 1937, will fill the rear axles at the factory with a very powerful hypoid lubricant and then trust subsequent refills to E.P. lubricants now widely sold through filling stations.

Undoubtedly, there are many hypoid lubricants available today through reputable oil companies and grease manufacturers that are entirely satisfactory for any hypoid and lack only the stamp of approval of the car manufacturers. While this approval in no way increases the lubricating properties of the lubricant, it is a recognition which oil companies are striving to get for their products and this failure to receive recognition is in reality the bottle neck to the wider distribution of many hypoid lubricants available today.

THE race to provide suitable lubricants for these axles in service stations will be an active one. Already some oil companies, finding their E.P. lubricants lacking in some of the qualities demanded by car manufacturers, are turning to those manufacturers of lubricants whose products are known to have passed the car makers' tests, and buying these products in bulk to be marketed under the oil companies' brand names.

One major company is preparing to market in 2-quart cans a hypoid gear lubricant "to be used in hypoid gears only." This product contains lead soap and sulphur, and because of its highly unstable nature there will be instructions on the can for the owner to "shake well before using."

One large eastern oil company is instructing its dealers not touch the hypoid axles on new cars for the first 3000 miles, with the thought in mind that, if trouble occurs during this critical period, it will be up to the car manufacturer and not the oil company to make good.

This company's research engineer, well known in automotive and oil circles, says that the large scale production of hypoid gears is an experiment, and that these gears will probably not need the most powerful type of E.P. lubricants.

It is his belief that it will not prove practicable to manufacture the low priced cars in such a way that they will only function with the maximum type of E.P. lubricant. He gives for his reasons the facts that, first, there is relatively little of this lubricant being made; second,

Advises on Handling Hypoid Lubes

The following points were offered for consideration by a committee of oil technologists who met at Atlantic City recently to discuss the three important subjects of automotive engine crankcase oil change practice, motor oil classification systems, and hypoid gear lubricants. The committee is headed by W. H. Correa, Socony-Vacuum Oil Co., New York.

"The lubrication of the hypoid gear involves the use of a lubricant having extreme load carrying capacity and no other form of product at present developed would seem to perform as satisfactorily. It appears advisable, therefore, to market this lubricant, which in nature is corrosive compared with the neutral action of the average lubricants, under the name "Hypoid Gear Lubricant"; the oil marketer's regular trade or brand names will naturally be used in association with such grade name for identification.

"The descriptive title "Extreme Pressure Lubricant" has been used during the past several years to describe special types of gear lubricant. It has become associated with products having a broad range of load carrying capacities from mild to extremely strong. It is today also being given consideration for various lubricating problems which arise in industrial application. As these practices have developed, it would appear preferable that the special lubricant required for the hypoid gear be described as recommended in the preceding paragraph.

"It seems advisable, in the beginning, to market hypoid gear lubricants in refinery sealed cans in order to protect the marketer as well as the consumer, to avoid the burden of capital investment that would be involved in dispensing equipment, and to insure that the lubricant will not be used for purposes for which it is not well-suited."

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no one as yet knows how to make that type of lubricant so that it is perfectly stable in storage; and third, no one knows how to make that type of lubricant for much less than double the manufacturing cost of a straight oil. He believes the owners of cars in this class will not go to lengths necessary to assure themselves they have the proper type of lubricant for this purpose.

This engineer, and he has been right many times before, believes that the hypoid gear will prove to be less sensitive than the manufacturers now think. He recalled the introduction of free wheeling, and how at that time it was believed that this device would require special lubricants, but experience showed this was not really the case. He pointed out there was a similar experience with overdrive units.

This engineer, whose opinion is upheld by many in the oil industry, feels that, in a year or two, we will see plenty of reasonably priced E.P. lubricants available, although they will probably not be of the maximum E.P. type, and that all cars will function satisfactorily where they are used. In his opinion, a mechanism which of necessity must have a very high E.P. lubricant will be too delicate and will cause its manufacturers too much grief for universal service.

The General Motors statement of its policy regarding servicing of hypoids is interpreted by some well informed oil men as an admission they are making a large scale experiment. If this is the case the service station attendant will do well to heed the recommendations of the car manufacturer explicitly; and if the station does not have the type of lubricant specified by the car maker, the attendant should tactfully refuse to service the rear end and tell the car owner to go to his car dealer for this job, explaining his reasons.

This would seem to be the safest course for the oil company to pursue, for the present at least. The situation is a shifting one, and present conditions are only temporary. The 1937 hypoid geared cars, in most cases, will require no attention until next spring anyway, and by that time it is hoped that much of the general confusion over the servicing of hypoids will be eliminated.

Grease manufacturers and compounders are exceedingly active in the development of powerful E.P. lubricants. Some of these companies are working very closely with the car manufacturers and supplying them with E.P. lubricants for initial factory fills on the assembly lines. It is to these grease companies that some of the oil companies are temporarily turning for their supplies of E.P. lubricants for resale through their service station dealers.

"Streamlined" Office Building

LOS ANGELES—The Pennzoil Co. (California) has recently completed a base plant and compounding plant here covering 5 acres. The unit has storage capacity for nearly 2,500,000 gallons of bulk oil and 20,000 cases of canned oil, in addition to barrels, lubricant containers, cases of cup grease and so on.

The plant yard incorporates 36,000 square feet of asphalt paving, arranged to expedite shipments by truck and rail. A completely equipped laboratory is maintained.

Modernistic exterior treatment of the new office building is an example of "streamlining" on architectural styling. The use of unusual silhouetted and luminous lighting effects makes the front particularly striking at night. This building is air conditioned throughout. Its facilities provide for a large lubrication school and featured prominently in the lobby are two lubrication displays.

Production, Refining, Economic Trends on A.P.I. Program

NEW YORK, Oct. 3

PETROLEUM production and refining technology and business and economic trends cover the wide range of topics to be discussed at the 17th annual meeting of the American Petroleum Institute, to be held Nov. 9 to 12 at the Stevens Hotel, Chicago.

The preliminary program indicates four group sessions on production, three on refining and two on marketing.

The production sessions are divided into discussions of materials, fundamental research, drilling practice and production practice; the refining sessions into refining generally and automotive topics; and the marketing sessions into automotive transportation, and current problems affecting marketing generally.

Papers now being considered or announced for the various sessions are:

Division of production, with general subject of materials, C. W. Froome, Union Oil Co. of California, presiding: Use of Vanadium Steels in Production Equipment; Use of Molybdenum Steels in Production Equipment; and The Relation of Mechanical Testing to Steel Performance.

On the general subject of fundamental research, with G. V. D. Marx, Standard Oil Co. of California, presiding: Formation Volumes and Energy Characteristics of Gas-Gap Material from Kettleman Hills Fields; Relationship Between Organic Material in the Sediments and the Presence or Absence of Oil; and Present Status of Hypothesis of Biogenesis of Petroleum.

On the general subject of drilling practice, with J. T. Hayward, Barnsdall Oil Co., presiding: Theoretical Determination of Collapse Strength of Casing; Testing Structural Silicon-Steel Members for Derricks; and Bottom-Hole Sampling and Analysis Apparatus.

On the general subject of production practice, with T. V. Moore, Humble Oil & Refining Co. presiding: Flow Tests on West Texas wells; Simultaneous Application of Surface and Sub-Surface Dynamometers; Determination of Porosity and Saturation; and Technique for Procuring and Handling Cores for Saturation Tests.

Refining sessions will start off with a paper on Cracking and Its Economic Significance by Gustav Egloff, Universal Oil Products Co.; The Problem of the Rational Utilization of Crude Oil and its Distillates, by V. N. Ipatieff, Universal Oil Products Co.; and the Stability of Residual Fuels, by A. H. Batchelder, Standard Oil Co. of California.

The second refining session will have these papers:

Lubrication Requirements of Automotive Gears and Rear Axles, by H. R. Wolf, General Motors Corp.

The Newer Bearing Materials and Their Lubrication, by H. C. Mougey, General Motors Corp., followed by a report of the division's nominating committee, with Arthur E. Pew, Jr., Sun Oil Co., as chairman.

The third refining session on refining generally, will have these papers:

Fifteen Years of Co-operative Fuel Research, by T. G. Delbridge, The Atlantic Refining Co.

The Chemical Constituents of Lubricating Oil—A. P. I. Research Project 6, by F. D. Rossini, National Bureau of Standards.

Corrosion of Refinery Equipment, speaker to be announced.

The markeing sessions discussing automotive transportation, with Leo Huff, The Pure Oil Co., presiding, will present these papers:

The Truck Tank, a Conveyor of Petroleum Products, and the Developments which Called it Into Use, by C. Wesley Boag, The Heil Co.

Analysis of Truck Design with Special Reference to Tank Trucks, by R. Cass, The White Motor Co.

What Co-operation can do for the Trucking Industry, by Ted V. Rodgers, American Trucking Associations, Inc.

The second marketing sessions, with George A. Perryman, Socony-Vacuum Oil Co., Inc., presiding, will devote its time to these papers:

Trends in Legislation Affecting Marketing, by Willis Crane, National Petroleum Association.

THE "Iowa Plan" from the Distributor's Viewpoint, by Charles F. Putnam, Putnam Service Co.

The "Iowa Plan" from the Retailer's Viewpoint, by W. R. Schuh, National Association of Petroleum Retailers. A report of the division's nominating committee will follow, with Mr. Perryman as chairman.

Speakers for several of the papers under consideration have not been announced as yet but the final program will be completed some time this month.

The usual plan is being followed with the program, with committee meetings on the opening day; committee meetings, general session and evening group session on Tuesday; group sessions, general session and annual dinner on Wednesday, and final group sessions on Thursday.

More than 100 offices, including that of the president, and 45 memberships on the board of directors, are to be filled by election. The board of councillors, which selects candidates for election to the directorate, has been appointed. Fifteen members of divisional general committees are to be appointed and 60 additional members to the divisions of production, refining and marketing.

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• MARKETS •

CLEVELAND, Oct. 12

RUNNING against the usual seasonal trend, gasoline prices showed signs of working higher in some oil markets the week ended Oct. 10. Further improvement was noted in the status of gasoline despite the fact many of the factors which had forced the widespread reductions in prices in September still were exerting their influence on markets.

While the improvement in the status of gasoline was confined largely to the Mid-Continent and Mid-Western markets and actual advances were limited to third grade gasoline, probably a larger volume of gasoline was affected by the improvement than was affected by the lower prices established at some points along the eastern seaboard.

Observers had some difficulty in placing their fingers on the reason for the improvement. Offerings apparently were not so plentiful, although the American Petroleum Institute reported that stocks of gasoline increased in the week ended Oct. 3, going against the seasonal trend. Likewise, crude runs were reported to have been cut back, but the institute reports showed only a slight reduction in runs to still, not enough to keep gasoline stocks on the downward trend.

Apparently refiners were becoming aware of the fact that their prices were not allowing them much margin for profit in relation to crude costs and that they were not selling any more gasoline at the lower prices. Reports indicated consumption of gasoline in October was running ahead of last year and refiners realized it was of little, if any, benefit when prices were at the levels reached two weeks ago.

Whatever the cause, the result was a firmer market, with indications pointing to higher prices. As this is being written, word comes that both 63-67 and 68-70 octane gasoline prices were up 0.125 cent in the Mid-Continent markets and all three grades were up 0.125 cent in the Mid-Western market today. This followed an advance in third grade gasoline prices in most Mid-Continent districts late last week.

Owing to these advances, the NATIONAL PETROLEUM NEWS gasoline index of tank car prices moves up to 6.27 cents from 6.24 cents on Oct. 5. A month ago this index was 6.32 cents.

Increased offerings of gasoline at some eastern seaboard terminals forced lower prices in that area. The 65 octane and above gasoline was sold at New York harbor and Baltimore at 6.5 cents, off 0.25 cent. At the same time Socony-Vacuum announced a 0.5 cent reduction in tank car prices throughout eastern New York state and New England, effective Oct. 13. Some sellers, however, began selling at the lower prices today. Net reduction in prices at Portland, Boston and Providence is only 0.25 cent, as some sellers had been quoting 0.25 cent under prices quoted by Socony-Vacuum.

While tank car prices were moving up, dealer tank wagon prices moved down 0.01 cent. Due to the fact so many companies have discontinued posting retail prices, NATIONAL PETROLEUM NEWS last week inaugurated an index showing an undivided dealer tank wagon price in the same 50 cities formerly used in the retail index. Last week this index was 10.19 cents while this week it is 10.18 cents.

Most of the trade interest in the Gulf market centered on fuel oils although one or two inquiries for a cargo of gasoline were in the market. Inventories of gasoline at the Gulf were reported in good shape, with prices unchanged. A cargo of kerosine was sold at the Gulf for coastwise lifting at 0.25 cent above the price paid for the last cargo.

While wholesale gasoline prices remained fairly firm on the west coast, a report that a cargo of 70,000 barrels of East Texas gasoline had left the Gulf for delivery at Los Angeles tended to unsettle markets in that area. The report of the sale of the cargo could not be confirmed, but it was known that negotiations to that end have been going on. Difficulty in completing the transaction was due to the fact no bottoms were available. In addition, the tanker would have to have a return cargo, or a trip would not be economical.

Lubricating oils were quiet following the general reductions in prices the previous week. Most reports indicated that sellers were adhering pretty closely to the lower prices except on Mid-Continent bright stock, on which price shading continued. Pennsylvania neutrals, on the other hand, remained almost as tight at the higher prices as they had been before the advance.

Demand for wax probably was not quite as active as it had been the past few weeks. At the same time, supplies were well held and refiners generally were holding pretty close to the market as published. Reports indicated that foreign demand was quiet, but most traders believed this situation was only temporary.

N. P. N. Gasoline Index

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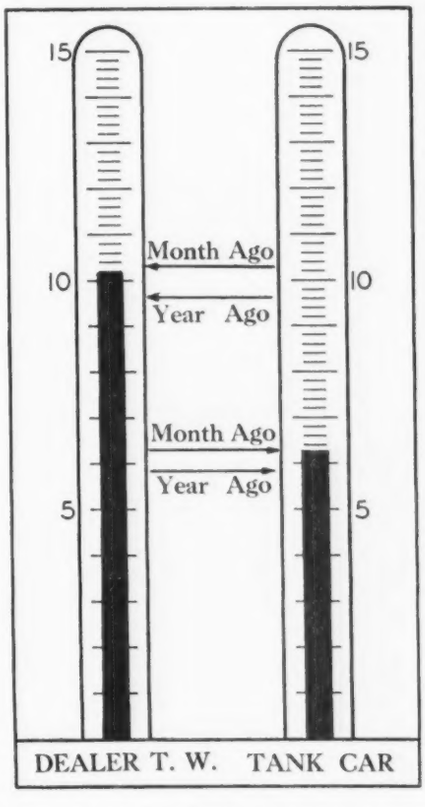
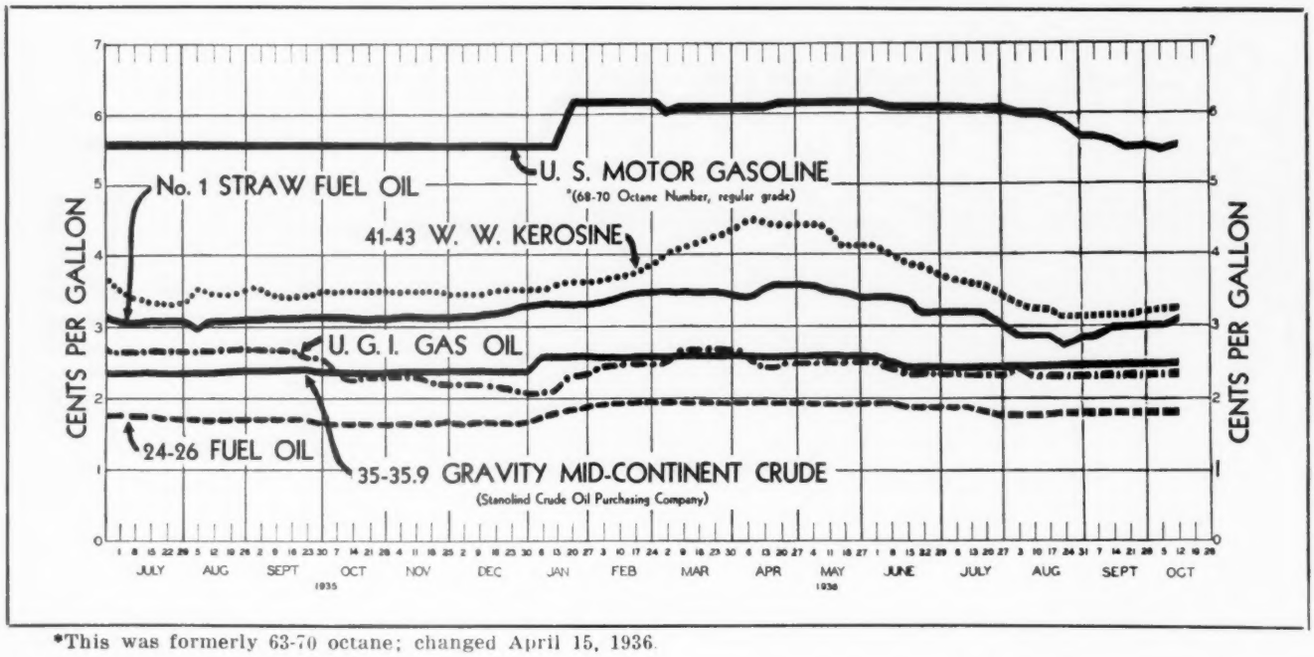


Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities. It replaces the retail index, discontinued last week for lack of sufficient postings of retail service station prices. Tank car index is a weighted average of 13 wholesale markets for regular-grade gasoline. The gasoline price index this week represents the following prices in cents per gallon:

	Dealer T.W.	Tank Car
Oct. 12	10.18	6.27
Month ago	10.33	6.26
Year ago	9.63	5.84

Barometer of Mid-Continent Refinery Market

Charted Course of Prices of Crude and Principal Refined Products, Week by Week


No. 1 STRAW FUEL OIL
U. S. MOTOR GASOLINE
*(68-70 Octane Number, regular grade)
41-43 W. W. KEROSINE
U. G. I. GAS OIL
24-26 FUEL OIL
35-35.9 GRAVITY MID-CONTINENT CRUDE
(Stanolind Crude Oil Purchasing Company)
CENTS PER GALLON
CENTS PER GALLON
JULY AUG SEPT OCT NOV DEC JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT
1935
1936

*This was formerly 63-70 octane; changed April 15, 1936.

California

Gasoline Easy

LOS ANGELES, Oct. 9

WHOLESALE gasoline prices were firm the past week in Pacific Coast markets, but retail prices were somewhat easier than a week ago. Limited quantities of low grade gasoline were available at 11.5 cents a gallon, inclusive of 4 cents tax, for tank wagon deliveries in the Los Angeles Basin area, and the prevailing price for a few highly competitive brands was 12 cents a gallon.

Efforts of some major company affiliates and leading independent refiners to secure new outlets were considered responsible for considerable price cutting, but all of this was done under cover and a majority of marketing companies, so far as their official records showed, held strictly to the posted tank wagon price of 13 cents a gallon for major company third grade and independent competitive brands.

Reports persisted, but could not be confirmed, that, following weeks of negotiations, a cargo of 70,000 barrels of East Texas gasoline had already left a Gulf Coast port and was due to arrive in Los Angeles in about two weeks, with Stockton and some northern port as optional points of discharge.

This shipment was understood to be consigned to the same distributors that received a similar cargo about two months ago. That gasoline was apparently absorbed without any material effect on the price structure but, because of a seasonal decrease in demand since then, marketing officials doubted whether further supplies could be brought in without affecting the stability of both wholesale and retail gasoline prices.

As was the case in some previous tanker movements by major companies from the Gulf Coast to California in coastwise service was a factor in ports, the temporary need for vessels the situation. It was agreed that a tanker could not profitably be brought from the Gulf Coast to the Pacific unless assured of another charter on arrival.

Fuel oil quotations remained unchanged. At independent plants in the San Joaquin Valley, prices ranged from $0.725 to $0.85 per barrel, and in the Basin from $0.70 to $0.95 a barrel.

Quotations on diesel oil were irregular. Small quantities of this product, under 23.9 gravity, were reported available at $0.95 a barrel, but this price was not considered representative and the prevailing price was believed to be from $1.00 to $1.10 per barrel.

Export quotations on diesel oil were generally lower than at any previous time in recent months, although the range of quotations was not affected. A cargo of this product, 24 plus gravity, was sold by one of the major companies the past week at $1.05 a barrel, although quotations on similar grades by members of this group have consistently ranged from $1.15 to $1.30 a barrel.

No other important changes were made in export prices on Pacific Coast seaboard markets.

Eastern

Gasoline Price Trend Down

NEW YORK, Oct. 10

GASOLINE prices wavered at several seaboard terminals during the week ended Oct. 10 and lower prices were established. At other points, chiefly in the southern territory, the market remained fairly steady.

Possibly the outstanding event of the week was the announcement made Oct. 9 by Socony-Vacuum that it would reduce tank car gasoline prices 0.5 cent on Oct. 13 throughout eastern New York state and New England. This reduction will bring Socony's tank car price for unleaded 65 octane and above gasoline to 6.75 cents per gallon f.o.b. seaboard terminals at New York harbor, Boston and Providence.

A reduction of 0.25 cent in tank car gasoline prices at New York harbor and Baltimore was made by several suppliers of 65 octane and above gasoline during the week. Sales were reported at 6.5 cents at both points. Other suppliers at these terminal points, however, continued to sell at 6.75 cents.

Tank wagon and service station gasoline prices remained about unchanged over the week, except at Philadelphia. Distributors at this point, including Atlantic Refining Co., reduced service prices 1.5 cents per gallon on Oct. 7, bringing the level of regular grade gasoline to 11 cents, exclusive of taxes. In connection with its announcement on tank car pricees, Socony-Vacuum stated there would be no change in dealer tank wagon prices except at

Boston, where they will be cut 0.5 cent in line with the tank car reduction.

The kerosine market was steady with no changes noted in prices. Suppliers generally reported a consistent demand and no oversupply of oil. Indications pointed to an excellent consumption of kerosine the coming winter, they said, and few were pushing hard for sales at present price levels.

Mid-Continent

Low Octane Higher

TULSA, Oct. 10

THE market for low octane gasoline advanced 0.125 cent in the Mid-Continent the past week.

Some evidence of possible price advances was noted the previous week, when some suppliers refused to sell at the then current price, advancing quotations 0.125 cent. Higher quotations at that time failed to attract much business and did not become general until late this week. At the close of the week, Mid-Continent refiners generally were quoting and selling low octane gasoline at a minimum of 4.625 cents, Group 3.

Discussions of price advances centered around conditions that made the advance possible. Most observers believed that curtailed refinery operations on the part of refiners who were important factors in the open market were the underlying cause of the steadiness. With gasoline output more nearly balanced with actual demand, surplus offerings soon dwindled. As a result, when refiners were able to advance prices there was little, if any, low-priced gasoline available to unsettle the market.

There were fewer offerings of "no-octane" Rodessa gasoline, according to most reports. One supplier who had been canvassing the market for orders, withdrew his offerings. Small refiners adjacent to agricultural regions reported a fairly brisk demand for low octane gasoline. Apparently plowing has gotten under way in many districts and low octane gasoline was being used as tractor fuel.

Low octane motor fuel was not the only grade of gasoline to show improvement last week. The high octane brackets were materially improved by steady consumption and reduced output. This steadiness had not yet been reflected in general price advances, although some refiners did advance quotations 0.125 cent last week. Others indicated higher prices would be asked at the beginning of the week.

There were few open market transactions reported in Grade 26-70 natural market last week. This was not construed as a decline in demand, but merely reflected the "sold up" condi-

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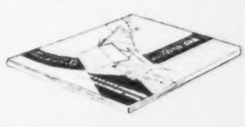

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tion of most sellers. Some manufacturers already have sold up most of their production for the last half of October. Grade 26-70 prices held at unchanged levels last week.

Kerosine no longer was as topheavy as several weeks ago. Output of this product has been cut back considerably and demand has increased somewhat. Refiners in the Mid-Continent farming belt reported a fair movement of kerosine to farmers. Refiners who ship into the Indiana territory indicated good consumption, although up there some of the demand came from range oil users.

Further reductions in prices of Mid-Continent bright stock were indicated late the past week. Offerings both direct and through brokers were increasing. Apparently some suppliers were anxious to reduce their stocks of this oil before winter sets in.

Mid-Continent neutral oils apparently have settled down after last week's drastic price reductions.

Supplies of Mid-Continent 124-126 wax were pretty well sold up last week. Refiners were quoting from 2.5 to 2.6 cents f.o.b. their plants for this grade wax.

Coastal

Cargo Demand Good

NEW YORK, Oct. 10

A GOODLY number of cargo inquiries were noted in the Gulf Coast market the past week and several sales were reported. Interest centered chiefly in the light and heavy fuel oils, although gasoline came in for some attention.

The continued tightness in the bunker oil market was confirmed during the week, when two cargoes of Grade C oil sold at $0.95 a barrel, f.o.b. the Gulf for late October coastwise lifting. This represented an advance of 5 cents a barrel over previous quotations. Inquiries remained in the market for one or two cargoes of bunker oil, but no other sales were confirmed.

The other sale at the Gulf involved a full cargo of kerosine for coastwise lifting during the last half of October. The buyer paid 4 cents a gallon, f.o.b. the Gulf, 0.25 cent above the last cargo sale reported.

Gasoline was not commanding the attention that heavier oils were receiving, but two refiners reported receiving an inquiry for a cargo for coastwise lifting. Up to the close of business Oct. 10, however, no confirmation of a sale was received. Reports were current late in the week that a cargo of 64-66, 375 e.p. gasoline had been sold for export shipment. Details could not be obtained, however, and some suppliers said they thought the inquiry still was open.

Wax

Scale Quiet

NEW YORK, Oct. 10.—Crude scale wax was quiet throughout the past week with no particular changes noted. Demand was reported fairly active from domestic buyers, but export buyers were reported to be holding off purchases. Suppliers generally said they were not pressed to move scale and consequently were not pushing the market very hard at present.

Fully refined waxes were fairly steady with prices quoted at the same level that have prevailed for several months.

Pennsylvania

Prices Fairly Steady

CLEVELAND, Oct. 10

ASIDE from a 0.5 cent reduction on most grades of cylinder stocks, prices for most products in the Pennsylvania market were steady the week ended Oct. 10. Offerings generally were about in balance with demand, several refiners reporting they were sold out for October on some oils.

While jobber demand for some products, such as bright stock, was not as active as for others, such as fuel oil, inter-refinery purchases took up about all the slack which developed on the products not in demand from jobbers. Demand from foreign buyers was largely responsible for the inter-refinery buying.

Increased offerings of most grades of cylinder stocks brought about a competitive condition which forced slightly lower prices for these oils. The 600 steam refined slid off another 0.25 cent, making 0.75-cent reduction the past two weeks. The 650 steam refined, 600 flash and 630 flash stocks were down 0.5 cent.

Bright stock remained fairly steady at the lower prices established the previous week. Buying by companies with foreign connections still was sufficient to keep current production moving. Several refiners reported that orders placed with them the past week would absorb their entire October production.

The recent 0.5-cent advance in neutral prices stimulated demand for this oil so that prices were as tight at the higher levels as they had been before the advance. Some refiners were refusing to quote current prices for spot shipment, but sufficient quantities of neutral were available at those prices to be representative of the market.

Demand for wax continued active. Crude scale wax generally was held for a minimum of 2.45 cents, f.o.b. New York, but reports of more sales at slightly higher prices indicated that supplies at the lower price were on the decline.

With consumption of gasoline stimulated by favorable motoring weather, movement of both U. S. Motor and the higher octanes was sufficient to keep inventories in good shape. Some price shading was heard on the third grade, but sales at lower prices were not confirmed. Bulk of the minimum 65 octane gasoline still was moving at a minimum of 7.25 cents, reports indicated.

Movement of kerosine was spotty. Some refiners reported demand on the increase while others said it still was slack. With colder weather due at any time, refiners were anticipating a substantial increase in demand either for kerosine or furnace oil blends.

Fuel oil was fairly scarce. With demand from steel mills and other industrial plants at around the highest in six years, refiners were having virtually no difficulty in moving their entire production at favorable prices.

Chicago

Movement Spotty

CHICAGO, Oct. 10

THE Mid-Western gasoline market presented a varied picture the week ended Oct. 10. Movement was spotty, at times being fairly good. At the same time prices hardly reflected actual demand, as they showed steady improvement throughout the week.

The weather appeared to be a vital factor in demand for gasoline. With open market buying on a hand-to-mouth basis, movement increased when the weather was favorable, while it was slack when the weather turned wet and rainy.

Low octane U. S. Motor was easy at 4.375 cents at the beginning of the week and for a time appeared to be losing ground. As movement increased toward the middle of the week, however, low priced offerings gradually were absorbed. Late in the week some sellers began asking 4.5 and 4.625 cents, although representative low octane gasoline still was available at 4.375 cents.

At times considerable sales pressure on 68 to 70 octane gasoline was apparent. While some sellers seemingly were over-anxious to move this product, little or no shading was encountered during the week's trading period.

The action of the kerosine market the past several weeks has been the surprise to many traders here. With most of the agricultural buying now out of the way, the kerosine market has shown definite signs of advancing.

Movement the past several weeks was sufficient to clear up most of the surplus kerosine which accumulated because agricultural demand was slack.

REFINERY TANK CAR MARKETS

Prices in cents per gallon, tank car lots, except where otherwise noted. Prices are those to domestic jobbers who resell to consumers. They do not represent inter-refinery sales, or sales for export. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.

Gasoline *and* Naphtha

Oklahoma	**Oct. 12**	**Oct. 5**	**Sept. 28**
48-54, 450 e.p. naphtha	*4.50 – 4.75	*4.50 – 4.75	*4.50 – 4.75
U. S. Motor gasoline, by octane numbers:			
62 octane and below	4.625– 4.75	4.50 – 4.75	4.50 – 4.75
63-67 octane	5.00 – 5.375	4.875– 5.375	4.875– 5.375
68-70 octane (regular)	5.625– 5.75	5.50 – 5.75	5.50 – 5.75
60-62, 400 e.p. gasoline	4.625– 4.75	4.625– 4.75	4.625– 4.75
64-66, 375 e.p. gasoline	5.00 – 5.125	5.00 – 5.125	5.00 – 5.125
68-70, 350-360 e.p. gasoline	*5.00 – 5.25	*5.00 – 5.25	*5.00 – 5.25

*Nominal.

Western Penna. (Quotations and/or sales prices to car unloaders)			
Bradford-Warren:			
52-54 naphtha	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625
Motor gasoline:			
U.S. Motor (58-62°)	5.625– 5.75	5.625– 5.75	5.625– 5.75
Minimum 60 octane	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125
Minimum 65 octane	7.25 – 7.375	7.25 – 7.375	7.25 – 7.375
Minimum 70 octane	.....	.....	.....
64-66, 390 e.p. gasoline	5.875– 6.00	5.875– 6.00	5.875– 6.00
68-70, 350-360 e.p. gasoline	6.125– 6.25	6.125– 6.25	6.125– 6.25
Other districts:			
52-54 naphtha	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625
54-56 naphtha	5.625– 5.75	5.625– 5.75	5.625– 5.75
Motor gasoline:			
U.S. Motor (58-62°)	5.625– 5.75	5.625– 5.75	5.625– 5.75
Minimum 60 octane	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125
Minimum 65 octane	7.25 – 7.375	7.25 – 7.375	7.25 – 7.375
Minimum 70 octane	.....	.....	.....
64-66, 390 e.p. gasoline	5.875– 6.00	5.875– 6.00	5.875– 6.00
68-70, 350-360 e.p. gasoline	6.125– 6.25	6.125– 6.25	6.125– 6.25

California (3c tax to be added to prices if used in state)			
54-58 U.S. Motor, 437 e.p. for in-state shipment	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
54-58, U.S. Motor, 437 e.p. for outside state shipment	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
58-61, 375-400 e.p. gasoline, 65 octane and above	8.25 – 9.00	8.25 – 9.00	8.25 – 9.00

†***North Texas*** (F.o.b. Wichita Falls district for shipment to Texas and New Mexico destinations; Group 3 prices quoted on northern shipments).

U. S. Motor gasoline, by octane numbers:			
62 octane and below	4.625– 4.75	4.50 – 4.75	4.50 – 4.75
63-67 octane	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25
68-70 octane (regular)	5.625– 5.75	5.50 – 5.625	5.50 – 5.75
60-62, 400 e.p. gasoline	4.625– 4.75	4.625– 4.75	4.625– 4.75
64-66, 375 e.p. gasoline	4.875– 5.00	4.875– 5.00	4.875– 5.00
68-70, 350-360 e.p. gasoline	5.00 – 5.125	5.00 – 5.125	5.00 – 5.125

Kansas (F.o.b. refinery, Kansas destination)

U. S. Motor gasoline, by octane numbers:			
62 octane and below	4.875– 5.00	4.75 – 4.875	4.75 – 4.875
63-67 octane	*	*	*
68-70 octane (regular)	5.875– 6.00	5.75 – 5.875	5.75 – 5.875
60-62, 400 e.p. gasoline	4.875– 5.00	4.75 – 5.00	4.75 – 5.00

*This price discontinued due to thinness of open market sales.

†***West Texas and New Mexico*** (F.o.b. W. Texas and N. Mex. refineries for unrestricted shipment)

U. S. Motor gasoline, by octane numbers:			
62 octane and below	4.625– 4.75	4.50 – 4.75	4.50 – 4.75
63-67 octane	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25
68-70 octane (regular)	5.625– 5.75	5.50 – 5.75	5.50 – 5.75

†***East Texas*** (F.o.b. East Texas refinery for unrestricted shipment)

U. S. Motor gasoline, by octane numbers:			
62 octane and below	*4.625	4.50 – 4.625	4.50 – 4.625
60-62, 400 e.p. gasoline	4.625– 4.75	4.50 – 4.625	4.50 – 4.625

*Nominal.

North Louisiana (For Louisiana and Arkansas destination)			
U. S. Motor gasoline:			
62 octane and below	5.50	5.50	5.50
63-67 octane	6.25	6.25	6.25
68-70 octane (regular)	6.50	6.50	6.50

†Refiners generally receive from 0.25c to 0.5c per gallon more for gasoline and kerosine for local or differential territory shipment.

	Oct. 12	**Oct. 5**	**Sept. 28**
Arkansas (For Arkansas and Louisiana destination)			
U. S. Motor Gasoline:			
62 octane and below	5.50	5.50	5.50
63-67 octane	6.25	6.25	6.25
68-70 octane (regular)	6.50	6.50	6.50
Ohio (Quotations of S. O. Ohio. Delivered any point in Ohio).			
U. S. Motor gasoline	8.25	8.25	8.25
Above 65 octane no.	8.50	8.50	8.50

Natural Gasoline

(Prices shown f.o.b. Group 3 and Breckenridge represent majority of sales made on dates shown to blenders on the freight basis shown below, although shipments may originate in other manufacturing districts, such as East Texas, Panhandle, Southwest Texas or Kansas).

F.o b. Group 3			
Grade 26-70	4.50	4.50	4.50
F.o.b. Breckenridge			
Grade 26-70	4.25	4.25	4.25
California (F.o.b. plants in Los Angeles basin)			
75-85, 375-390 e.p. for blending	7.75 – 8.00	7.75 – 8.00	7.75 – 8.00

Kerosine

Western Penna. (Quotations and/or sales prices to car unloaders)			
Bradford-Warren:			
45 w.w. kerosine	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875
46 w.w. kerosine	4.875– 5.00	4.875– 5.00	4.875– 5.00
47 w.w. kerosine	5.00 – 5.125	5.00 – 5.125	5.00 – 5.125
Other districts:			
45 w.w. kerosine	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875
46 w.w. kerosine	4.875– 5.00	4.875– 5.00	4.875– 5.00
47 w.w. kerosine	5.00 – 5.125	5.00 – 5.125	5.00– 5.125
Oklahoma			
41-43 w.w. kerosine	3.125– 3.25	3.125– 3.25	3.00 – 3.25
42-44 w.w. kerosine	3.25 – 3.50	3.25 – 3.375	3.125– 3.375
Kansas (F.o.b. refinery Kansas destination)			
41-43 w.w. kerosine	3.25 – 3.50	3.25 – 3.50	3.25 – 3.50
42-44 w.w. kerosine	3.50 – 3.625	3.50 – 3.625	3.50 – 3.625

†***North Texas*** (F.o.b. Wichita Falls district or shipment to Texas and New Mexico destinations; Group 3 prices quoted on northern shipments).

41-43 w.w. kerosine	3.125– 3.375	3.125– 3.375	3.125– 3.375

†***East Texas*** (F.o b. East Texas refinery for unrestricted shipment)

41-43 w.w. kerosine	*3.125	*3.125	*3.125

*Nominal.

North Louisiana (For Louisiana and Arkansas destination)			
41-43 w.w. kerosine	3.75 – 3.875	3.75 – 3.875	3.75 – 3.875
Arkansas (For Arkansas and Louisiana destination)			
41-43 w.w. kerosine	*4.00 – 4.25	*4.00 – 4.25	*4.00 – 4.25

*Only one refiner quoting.

California (F.o.b. California refineries)			
38-40 w.w. kerosine	4.00 – 5.00	4.00 – 5.00	4.00 – 5.00

Gas *and* Fuel Oils

Western Penna. (Quotations and/or sales prices to car unloaders)			
Bradford-Warren:			
36-40 fuel oil	4.375– 4.50	4.375– 4.50	4.25 – 4.375
Other districts: (Excluding Pittsburgh District Prices)			
36-40 fuel oil	4.375– 4.50	4.375– 4.50	4.25 – 4.375
Oklahoma (F.o.b. Oklahoma refineries)			
No. 1 white fuel oil	3.125– 3.25	3.00 – 3.25	3.00 – 3.25
No. 1 straw fuel oil	3.00 – 3.125	2.875– 3.125	2.875– 3.125
No. 2 straw fuel oil	2.875– 3.00	2.875– 3.00	2.875– 3.00
No. 2 dark fuel oil	2.875– 3.00	2.875– 3.00	2.875– 3.00
U. G. I. gas oil	2.50 – 2.625	2.50 – 2.625	2.50 – 2.625

(*Continued on next page*)

REFINERY TANK CAR MARKETS

Prices in cents per gallon, tank car lots, except where otherwise noted. Prices are those to domestic jobbers who resell to consumers. They do not represent inter-refinery sales, or sales for export. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.

Oklahoma (cont'd)

	Oct. 12	Oct. 5	Sept. 28
Fuel oils: (Prices per barrel of 42 U. S. gallons)			
28-30 zero	2.875– 3.00	2.875	2.75 – 2.875
28-30	$1.05 –$1.10	$1.00 –$1.10	$1.00 –$1.10
24-26	$0.75 –$0.80	$0.75 –$0.80	$0.75 –$0.80
18-22	$0.725–$0.775	$0.725–$0.775	$0.725–$0.775
14-16	$0.625–$0.65	$0.625–$0.65	$0.625–$0.65
Kansas (F.o.b. refinery, Kansas destination)			
No. 1 p.w., fuel oil	3.375– 3.50	3.125– 3.375	3.125– 3.375
18-22 fuel oil (per bbl.)	$0.75 –$0.80	$0.75 –$0.775	$0.75 –$0.775
10-14 fuel oil (per bbl.)	$0.70 –$0.725	$0.675–$0.725	$0.675–$0.725
North Texas (F.o.b. Wichita Falls district for shipment to Texas and New Mexico; Group 3 prices quoted on northern shipments).			
No. 1 straw, fuel oil	3.00 – 3.125	3.00 – 3.125	3.00 – 3.125
No. 1 white, fuel oil	3.125– 3.25	3.125	3.125
U.G.I. gas oil	2.50 – 2.625	2.50 – 2.625	2.50 – 2.625
No. 2 fuel oil	*3.00	*3.00	*3.00
24-26 fuel oil (per bbl.)	$0.675–$0.70	$0.675–$0.70	$0.675–$0.70
18-22 fuel oil (per bbl.)	$0.60 –$0.65	$0.60 –$0.65	$0.60 –$0.65
*Nominal.			
West Texas (F.o.b. West Texas refineries for unrestricted shipment).			
No. 2 fuel oil	*3.00	*3.00	*3.00
18-22 fuel oil (per bbl.)	$0.675–$0.70	$0.675–$0.70	$0.675–$0.70
*Nominal.			
East Texas (F.o.b. East Texas refineries for unrestricted shipment).			
No. 1 white, fuel oil	*3.00 – 3.125	*3.00 – 3.125	*3.00 – 3.125
U.G.I. gas oil	2.50	2.50	2.50
No. 2 fuel oil	*3.00	*3.00	*3.00
24-26 fuel oil	$0.65 –$0.675	$0.65 –$0.675	$0.65 –$0.675
20-24 fuel oil	$0.65	$0.65	$0.65
*Nominal.			
North Louisiana (For Louisiana and Arkansas destination).			
No. 2 fuel oil	3.00 – 3.125	3.00 – 3.125	3.00 – 3.125
U.G.I. gas oil	2.625	2.625	2.625
20-24 fuel oil (per bbl.)	$1.05 –$1.10	$1.05 –$1.10	$1.05 –$1.10
16-20 fuel oil (per bbl.)	$0.95 –$1.00	$0.95 –$1.00	$0.95 –$1.00
10-14 fuel oil (per bbl.)	$0.70 –$0.75	$0.70 –$0.75	$0.70 –$0.75
Arkansas (For Arkansas and Louisiana destination)			
No. 2 fuel oil	3.25	3.25	*3.25
28-30 gas oil, zero	*3.00	*3.00	*3.00
20-24 fuel oil (per bbl.)	$0.825–$0.875	$0.825–$0.875	$0.825–$0.875
16-20 fuel oil (per bbl.)	$0.725–$0.775	$0.725–$0.775	$0.725–$0.775
10-14 fuel oil (per bbl.)	$0.60 –$0.65	$0.60 –$0.65	$0.60 –$0.65
*Only one refiner quoting.			
California			
San Joaquin Valley, per bbl.:			
Grade C fuel oil	$0.725–$0.85	$0.725–$0.85	$0.725–$0.85
Diesel fuel oil	$0.95 –$1.47	$1.00 –$1.47	$1.00 –$1.47
Stove distillate	$1.20 –$1.89	$1.20 –$1.89	$1.20 –$1.89
Los Angeles, per bbl.:			
Grade C fuel oil	$0.70 –$0.95	$0.70 –$0.95	$0.75 –$0.95
Diesel fuel	$0.95 –$1.47	$1.00 –$1.47	$1.00 –$1.47
Stove distillate	$1.20 –$1.89	$1.20 –$1.89	$1.20 –$1.89
San Francisco, per bbl:			
Grade C fuel oil	$1.00	$1.00	$1.00
Diesel fuel	$1.68	$1.68	$1.68
Stove distillate	$2.10	$2.10	$2.10

Neutral Oils

Western Penna. (Quotations and/or sales prices to car unloaders)

Viscous Neutrals (Viscosity at 70° F.)

	Oct. 12	Oct. 5	Sept. 28
200 Vis. (180 at 100°) No. 3 color, 420-425 flash:			
0 pour test	23.50 –24.00	23.50 –24.00	23.50 –24.00
10 pour test	22.50 –23.00	22.50 –23.00	22.50 –23.00
15 pour test	22.00 –22.50	22.00 –22.50	22.00 –22.50
25 pour test	21.00 –21.50	21.00 –21.50	21.00 –21.50
180 Vis. (165 at 100) No. 3 color, 410-415 flash:			
25 pour test	20.00 –20.50	20.00 –20.50	20.00 –20.50
150 Vis. (143 at 100) No. 3 color, 400-405 flash:			
0 pour test	20.00 –20.50	20.00 –20.50	20.00 –20.50
10 pour test	19.00 –19.50	19.00 –19.50	19.00 –19.50
15 pour test	18.50 –19.00	18.50 –19.00	18.50 –19.00
25 pour test	17.50 –18.00	17.50 –18.00	17.50 –18.00

South Texas (F.o.b. South Texas refineries, for domestic shipment)

Vis. Color			
Pale Oils:	*(Viscosity at 100° F.; pour test 0)*		
100 No. 1½-2½	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00
200 No. 2-3	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00
300 No. 2-3	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
580 No. 2½-3½	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
750 No. 3-4	8.50 – 9.00	8.50 – 9.00	8.50 – 9.00
1200 No. 3-4	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
2000 No. 4	9.25 –10.00	9.25 –10.00	9.25 –10.00
Red Oils:			
200 No. 5-6	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00
300 No. 5-6	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
500 No. 5-6	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
750 No. 5-6	8.50 – 9.00	8.50 – 9.00	8.50 – 9.00
1200 No. 5-6	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
2000 No. 5-6	9.25 –10.00	9.25 –10.00	9.25 –10.00

Note: South Texas red oil prices shown above cover oils with green cast; blue cast red oils are slightly lower in some cases.

Mid-Continent (Viscosity at 100° F.; F.o.b. Tulsa basis. Prices represent majority of quotations)

	Oct. 12	Oct. 5	Sept. 28
0 to 10 Pour Point:			
Pale Oils			
Vis. Color			
60-85—No. 2	5.25	5.25	5.25
86-110—No. 2	5.75	5.75	5.75
150—No. 3	8.50	8.50	10.00
180—No. 3	9.50	9.50	11.25
200—No. 3	10.00	10.00	11.75
250—No. 3	11.00	11.00	13.75
280—No. 3	12.00	12.00	14.75
300—No. 3	12.50	12.50	15.25
Red Oils:			
180—No. 5	8.50	8.50	10.25
200—No. 5	9.00	9.00	10.75
250—No. 5	10.00	10.00	12.75
280—No. 5	11.00	11.00	13.75
300—No. 5	11.25	11.25	14.00

Note: Viscous and non-viscous oils, 15 to 25 pour point are generally quoted 0.5c under 0 to 10 pour point oils. Viscous oils (150-300 vis.), No. 4 color, are generally quoted 0.5c above No. 5 color oils.

Chicago (F.o.b. Chicago District refineries) (Vis. at 100° F.)

Pale Oils, *15 to 30 pour point:			
Vis. Color			
60-85—No. 2	6.50	6.50	6.50
86-110—No. 2	7.00	7.00	7.00
150—No. 3	9.00	9.00	10.00
180—No. 3	10.00	10.00	11.25
200—No. 3	10.50	10.50	11.75
250—No. 3	11.50	11.50	13.75
Red Oils, *15 to 30 Pour Point:			
180—No. 5	9.00	9.00	10.25
200—No. 5	9.50	9.50	10.75
250—No. 5	10.50	10.50	12.75
280—No. 5	11.50	11.50	13.25
300—No. 5	12.00	12.00	13.50

*Oils with 0-10 pour point are quoted at 0.5c higher. To obtain prices delivered in Chicago, add 0.25c per gal.

California (F.o.b. California refineries; Viscosity at 100° F.)

All neutral oils, 11.5c per gal. in tank car lots; and 13.5c in iron bbls., to refiners only, excluding federal tax.

Cylinder Stocks

Mid-Continent (F.o.b. Tulsa basis. Prices represent quotations and sales)

Bright Stocks:			
190-200 Vis. at 210° D	20.00 –21.00	21.00	21.00 –21.50
150-160 Vis. at 210° D:			
0 to 10 pour test	17.00 –18.00	18.00	18.00 –18.50
10 to 25 pour test	16.50 –17.50	17.50	17.50 –18.00
25 to 40 pour test	16.00 –17.00	17.00	17.00 –17.50
150-160 Vis. at 210° E	16.00 –17.00	17.00	17.00 –17.50
120 Vis. at 210° D:			
0 to 10 pour test	16.00 –17.00	17.00	17.00 –17.50
10 to 25 pour test	15.50 –16.50	16.50	16.50 –17.00
25 to 40 pour test	15.00 –16.00	16.00	16.00 –16.50
600 Stm. Rfd. Dark Green	5.50 – 6.00	5.50 – 6.00	5.50 – 6.00
600 Stm. Rfd. Olive Green	6.75 – 8.00	6.75 – 8.00	6.75 – 8.00
631 Steam Refined	*13.50	*13.50	*14.00
Black Oil	3.25 – 3.375	3.25 – 3.375	3.25 – 3.375

*Only one refiner quoting.

Chicago (F.o.b. Chicago district refineries) (Viscosity at 210°)

Unfiltered Steam Refined:			
140	9.00	9.00	9.00
160	10.00	10.00	10.00
200	11.00	11.00	11.00
Bright stocks, 160 vis. at 210 No. 8 color:			
0 to 10 pour point	19.75	19.75	20.25
15 to 25 pour point	19.25	19.25	19.75
30 to 40 pour point	18.75	18.75	19.25
E filtered Cyl. Stock	14.50	14.50	14.50

To obtain prices delivered in Chicago, add 0.25c per gal.

Western Penna. (A.S.T.M. tests; quotations and/or sales prices to car unloaders)

600 stm. rfd. filterable	12.50 –13.00	12.75 –13.00	13.25 –13.50
650 steam refined	14.00 –14.50	14.50 –15.00	14.50 –15.00

(Continued on next page)

REFINERY TANK CAR MARKETS

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Cylinder Stocks (cont'd)

Western Pennsylvania (cont'd)

	Oct. 12	Oct. 5	Sept. 28
600 flash	15.00 -15.50	15.50 -16.00	15.50 -16.00
630 flash	17.00 -17.50	17.50 -18.00	17.50 -18.00
600 Warren E	16.00 -16.50	16.00 -16.50	16.00 -16.50
Bright stock, 145-155 vis. at 210°, 540-550 flash, No. 8 color:			
10 pour test	23.50 -24.00	23.50 -24.00	23.50 -24.00
15 pour test	22.50 -23.00	22.50 -23.00	22.50 -23.00
20 pour test	21.50 -22.00	21.50 -22.00	21.50 -22.00
25 pour test	20.50 -21.00	20.50 -21.00	20.50 -21.00

Petrolatums

Western Penna. (Per pound, in barrels, carload lots, f.o.b. Penna. refinery. In tank cars, 0.5c per pound less. Quotations are from majority of petrolatum makers).

Snow White	6.625	6.625	6.625
Lily White	5.625	5.625	5.625
Cream White	4.625	4.625	4.625
Light Amber	2.75	2.75	2.75
Amber	2.50	2.50	2.50
Red	2.00 - 2.125	2.00 - 2.125	2.00 - 2.125

Wax

	Oct. 12	Oct. 5	Sept. 28
Western Penna. (Per pound, f.o.b. New York)			
122-124 wh. crude scale, A.m.p.	2.40 - 2.45	2.40 - 2.45	2.40 - 2.45
124-126 wh. crude scale, A.m.p.	2.45 - 2.50	2.45 - 2.50	2.45 - 2.50

Oklahoma (Per pound in barrels; in a few instances, per pound in burlap bags; f.o.b. Oklahoma refineries)

124-126 wh. crude scale, A.m.p.	2.50 - 2.60	2.50 - 2.60	2.50 - 2.60

Chicago (F.o.b. Chicago district refineries, in cents per pound, in bags, carload lots. Melting points are E.M.P. (A.S.T.M.) methods; add 3° F. to convert into A.m.p.)

Fully refined:			
122-124	4.65 - 4.75	4.65 - 4.75	4.65 - 4.75
125-127	4.90 - 5.00	4.90 - 5.00	4.90 - 5.00
127-129	5.05 - 5.15	5.05 - 5.15	5.05 - 5.15
130-132	*5.45 - 5.55	*5.45 - 5.55	*5.45 - 5.55
132-134	*5.70 - 5.80	*5.70 - 5.80	*5.70 - 5.80
135-137	*6.45 - 6.55	*6.45 - 6.55	*6.45 - 6.55

*Same prices quoted in bags or slabs loose.

MID-WESTERN TANK CAR MARKETS

Following prices are in cents per gallon, except where otherwise noted, in tank car lots, representing majority of sales of products made by Chicago sellers, from legally produced crude to jobbers on Group 3 freight basis, although shipments may originate in other South-western or Mid-western refining districts. Prices do not include state or federal taxes.

Gasoline

U. S. Motor gasoline:	Oct. 12	Oct. 5	Sept. 28
62 octane and below	4.50 - 4.75	4.375- 4.75	4.375- 4.75
63-67 octane	4.875- 5.25	4.75 - 5.25	4.75 - 5.25
68-70 octane (regular)	5.375- 5.625	5.25 - 5.50	5.25 - 5.50
60-62, 400 e.p.	4.625- 4.75	4.50 - 4.75	4.50 - 4.75
64-66, 375 e.p.	5.00 - 5.125	5.00 - 5.125	5.00 - 5.125
68-70, 350-360 e.p.	5.125- 5.25	5.125- 5.25	5.125- 5.25

Kerosine

41-43 w.w.	3.125- 3.25	3.125- 3.25	3.00 - 3.25
42-44 w.w.	3.25 - 3.50	3.25 - 3.50	3.125- 3.50

Fuel *and* Gas Oils

Domestic:			
No. 1 prime white	3.125 3.25	3.00 - 3.25	3.00 - 3.25
No. 1 straw	3.00 - 3.125	2.875- 3.125	2.875- 3.125
No. 2 straw	2.875- 3.00	2.875- 3.00	2.875- 3.00
No. 2 dark	2.875- 3.00	2.875- 3.00	2.75 - 3.00
No. 3	2.875	2.875	2.75 - 2.875
No. 4 (per bbl.)	$0.95 -$1.00	$0.95 -$1.00	$0.95 -$1.00
No. 5 (per bbl.)	$0.725-$0.75	$0.70 -$0.75	$0.70 -$0.75
Industrial:			
No. 4 (per bbl.)	$0.85 -$0.90	$0.85 -$0.90	$0.85 -$0.90
No. 5 (per bbl.)	$0.65 -$0.675	$0.625-$0.675	$0.625-$0.675
No. 6 (per bbl.)	$0.575-$0.60	$0.55 -$0.60	$0.55 -$0.60
U.G.I. gas oil	2.50 - 2.625	2.50 - 2.625	2.50 - 2.625

Naphtha *and* Solvent

Stoddard solvent	6.875	6.875	6.875
V. M. & P. naphtha	7.375	7.375	7.375
Cleaners' naphtha	7.375	7.375	7.375
Mineral spirits	6.375	6.375	6.375
Rubber solvent	7.375	7.375	7.375
Lacquer diluent	8.375	8.375	8.375

DAILY GASOLINE PRICES

Daily range of gasoline prices (cents per gallon) in tank cars, as reported in PLATT'S OILGRAM, (Week Ended Oct. 9, 1936)

	Oct. 5	Oct. 6	Oct. 7	Oct. 8	Oct. 9
U. S. Motor, 62 octane and below:					
East Texas	4.50 - 4.625	4.50 - 4.625	4.50 - 4.625	4.50 - 4.625	†4.625
*North Texas	4.50 - 4.75	4.50 - 4.75	4.50 - 4.75	4.625- 4.75	4.625- 4.75
West Texas	4.50 - 4.75	4.50 - 4.75	4.50 - 4.75	4.625- 4.75	4.625- 4.75
Oklahoma	4.50 - 4.75	4.50 - 4.75	4.50 - 4.75	4.625- 4.75	4.625- 4.75
Mid-Western (Group 3 basis)	4.375- 4.75	4.375- 4.75	4.375- 4.75	4.375- 4.75	4.375- 4.75
U. S. Motor, 63-67 octane:					
*North Texas	5.00 - 5.25	5.00 - 5.25	5.00 - 5.25	5.00 - 5.25	5.00 - 5.25
West Texas	5.00 - 5.25	5.00 - 5.25	5.00 - 5.25	5.00 - 5.25	5.00 - 5.25
Oklahoma	4.875- 5.375	4.875- 5.375	4.875- 5.375	4.875- 5.375	4.875- 5.375
Mid-Western (Group 3 basis)	4.75 - 5.25	4.75 - 5.25	4.75 - 5.25	4.75 - 5.25	4.75 - 5.25
U. S. Motor, 68-70 octane (regular):					
*North Texas	5.50 - 5.625	5.50 - 5.625	5.50 - 5.625	5.50 - 5.625	5.50 - 5.625
West Texas	5.50 - 5.75	5.50 - 5.75	5.50 - 5.75	5.50 - 5.75	5.50 - 5.75
Oklahoma	5.50 - 5.75	5.50 - 5.75	5.50 - 5.75	5.50 - 5.75	5.50 - 5.75
Mid-Western (Group 3 basis)	5.25 - 5.50	5.25 - 5.50	5.25 - 5.50	5.25 - 5.50	5.25 - 5.50
Motor Gasoline, 60-64 octane					
New York harbor	6.50	6.50	6.50	6.50	6.50
Philadelphia district	6.50 - 6.75	6.50 - 6.75	6.50 - 6.75	6.50 - 6.75	6.50 - 6.75
Baltimore district	6.50 - 6.75	6.50 - 6.75	6.50 - 6.75	6.50 - 6.75	6.50
Motor Gasoline, 65 octane & above					
New York harbor	6.75	6.75	6.50 - 6.75	6.50 - 6.75	6.50 - 6.75
Philadelphia district	6.75 - 7.00	6.75 - 7.00	6.75 - 7.00	6.75 - 7.00	6.75 - 7.00
Baltimore district	6.75 - 7.00	6.75 - 7.00	6.75 - 7.00	6.75 - 7.00	6.50 - 6.75
U. S. Motor Gasoline, 58-62°					
Bradford-Warren (Western Penna.)	5.625- 5.75	5.625- 5.75	5.625- 5.75	5.625- 5.75	5.625- 5.75
Other districts (Western Penna.)	5.625- 5.75	5.625- 5.75	5.625- 5.75	5.625- 5.75	5.625- 5.75
Motor Gasoline, Minimum 60 octane					
Bradford-Warren (Western Penna.)	7.00 - 7.125	7.00 - 7.125	7.00 - 7.125	7.00 - 7.125	7.00 - 7.125
Other districts (Western Penna.)	7.00 - 7.125	7.00 - 7.125	7.00 - 7.125	7.00 - 7.125	7.00 - 7.125
Motor Gasoline, Minimum 65 octane					
Bradford-Warren (Western Penna.)	7.25 - 7.375	7.25 - 7.375	7.25 - 7.375	7.25 - 7.375	7.25 - 7.375
Other districts (Western Penna.)	7.25 - 7.375	7.25 - 7.375	7.25 - 7.375	7.25 - 7.375	7.25 - 7.375

*For shipment to Texas and New Mexico destinations; Group 3 prices are quoted on northern shipments.
†Nominal.

TANK WAGON, SERVICE STATION MARKETS

Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect Oct. 12, 1936, as posted by principal marketing companies at their headquarters offices, but subject to later corrections

S. O. New Jersey

Essolene

	Consumer Tank Car	Dealer T.W.	Taxes	Posted S.S.	Kerosine T.W.
Atlantic City, N. J.	7.5	9	4	*	9
Newark, N. J.	7.5	9	4	*	7.5
Annapolis, Md.	8.1	9.6	5	*	10
Baltimore, Md.	7.5	9	5	*	8
Cumberland, Md.	9.1	11.6	5	*	10
Washington, D. C.	7.5	9	3	15.5	9
Danville, Va.	8.7	11.2	6	20.7	12.9
Norfolk, Va.	7.5	10	6	19.5	11.3
Petersburg, Va.	7.8	10.3	6	19.8	11.7
Richmond, Va.	7.8	10.3	6	19.8	11.7
Roanoke, Va.	9	11.5	6	21	12.9
Charleston, W. Va.	8.3	10.8	5	*	12.6
Parkersburg, W. Va.	7.6	10.1	5	*	11.2
Wheeling, W. Va.	8.5	10	5	*	12.2
Charlotte, N. C.	8.9	11.4	7	*	12.6
Hickory, N. C.	9.4	11.9	7	22.4	13
Mt. Airy, N. C.	9.2	11.7	7	*	12.8
Raleigh, N. C.	8.5	11	7	*	12.1
Salisbury, N. C.	9	11.5	7	*	12.7
Charleston, S. C.	7.5	10	7	20.5	11.1
Columbia, S. C.	8.5	11	7	21.5	12.1
Spartanburg, S. C.	9.2	11.7	7	22.2	12.9

*S. O. New Jersey transferred stations to dealers: no prices available.

Price basis to undivided dealers: Dealer t.w. price less 0.5c per gal.

Price basis to commercial consumers: Beginning Feb. 11, 1935, all new commercial consumers will be signed on following differentials over tank car price, on yearly purchases: up to 35,999 gals., 2.5c over t.c.; 36,000 to 119,999 gals., 2c; 120,000 to 239,999 gals., 1.5c; 240,000 to 479,999 gals., 1c; and over 480,000 gals., 0.5c.

Above prices apply only when deliveries are made in lots of 50 or 100 gals. at one time, depending on region in which deliveries are made.

If deliveries are made in less than these minimum quantities, s.s. price at time and place of delivery applies.

Non-contract customers will be billed at 2.5c over tank car price at time and place of delivery.

Kerosine Discount: 1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore City contract not necessary) except no discount in state of New Jersey.

Socony-Vacuum Oil Co., Inc.

(S. O. New York Division)

Socony Mobilgas

	"Split" Dealer T.W.	Taxes	Total "Split" Dealer T.W.	†S.S.	Kerosine T.W.
Metropolitan N. Y. City: Boroughs of Manhattan, Bronx and Brooklyn (Kings and Queens)	8.7	*4	12.7	...	7.25
Borough of Richmond (Staten Is.)	9	*4	13	...	7.25
Albany, N. Y.	9	4	13	...	7.75
Binghamton, N. Y.	10	4	14	...	9
Buffalo, N. Y.	9.5	4	13.5	...	8.25
Jamestown, N. Y.	10	4	14	...	8.25
Plattsburg, N. Y.	11	4	15	...	8.75
Rochester, N. Y.	9.5	4	13.5	...	8.25
Syracuse, N. Y.	9.5	4	13.5	...	8.75
Danbury, Conn.	9.5	4	13.5	...	8
Hartford, Conn.	9	4	13	...	7
New Haven, Conn.	9	4	13	...	7.5
Bangor, Me.	9.5	5	14.5	...	8
Portland, Me.	10	5	15	...	7.75
Boston, Mass.	9	4	13	...	7.5
Concord, N. H.	11	5	16	...	8.5
Lancaster, N. H.	12	5	17	...	9.5
Manchester, N. H.	10.5	5	15.5	...	8
Providence, R. I.	9	3	12	...	7.25
Burlington, Vt.	11.5	5	16.5	...	8.75
Rutland, Vt.	9	5	14	...	8.5

*Plus 2% city sales tax computed at time of each sale.

†Socony-Vacuum transferred stations to dealers; no prices available.

Price basis to undivided dealers: 0.5c less than "split" dealer t.w.

To commercial consumers: Effective Feb. 4, 1935, covering yearly purchases, billed at posted tank car price, plus these differentials: 2.5c for delivery of 1,200 to 36,000 gals.; plus 2c, for 36,000 to 120,000 gals.; plus 1.5c for 120,000 to 240,000 gals.; plus 1c for 240,000 to 480,000 gals.; plus 0.5c for 480,000 gals. and over. Those buying less than 1,200 gals. yearly, get retail s.s. price.

Atlantic Refining

Atlantic White Flash Plus Gasoline

	T.W.	Taxes	Total T.W.	S.S.	Kerosine T.W.
Philadelphia, Pa.	10	5	15	16	9.5
Pittsburgh, Pa.	12.5	5	17.5	19.5	9
Allentown, Pa.	11.75	5	16.75	**	9.5
Erie, Pa.	12.5	5	17.5	18.5	8
Scranton, Pa.	11.75	5	16.75	**	10
Altoona, Pa.	12.5	5	17.5	19.5	9.5
Dover, Del.	12	5	17	**	10
Wilmington, Del.	11	5	16	**	9
Boston, Mass.	9	4	13	16.5	7
Springfield, Mass.	9	4	13	16.5	7.5
Worcester, Mass.	10	4	14	17.5	7.75
Fall River, Mass.	9	4	13	16.5	7
Hartford, Conn.	9	4	13	16.5	7
New Haven, Conn.	9	4	13	16.5	7.5
Providence, R. I.	9	3	12	15.5	7
Atlantic City, N. J.	10.3	4	14.3	17	9
Camden, N. J.	10	4	14	16.5	8
Trenton, N. J.	10.3	4	14.3	17	8
Annapolis, Md.	10.6	5	15.6	**	9.5
Baltimore, Md.	10	5	15	**	8
Hagerstown, Md.	11.1	5	16.1	**	10
Richmond, Va.	10.3	6	16.3	**	11.7
Wilmington, N. C.	10.1	7	17.1	**	11.3
Brunswick, Ga.	10.5	7	17.5	**	*12.5
Jacksonville, Fla.	10	8	18	**	11.5

*Georgia has kerosine tax of 1c per gal., not included in above price.

**Atlantic Refining transferred stations to dealers; no prices available.

Dealer discounts: on Atlantic White Flash Plus gasoline, thru territory, except Philadelphia: divided dealers, price equal to 3.5c off posted s.s. price; undivided dealers, price equal to 4c off posted s.s. price; authorized dealers contracts previous to Aug. 19, 1933, price equal to 3c less than posted s.s. price, plus 1c rental; at Philadelphia, delivered t.w. price to 100% dealers 8c, and to split dealers, 8.5c, effective Oct. 7.

Price basis to commercial consumer: Effective Oct. 1, 1935, on yearly gasoline purchases based on posted tank car prices plus following amounts: 1,200 to 36,000 gals., 2.5c over t.c.; 36,000 to 120,000 gals., 2c; 120,000 to 240,000 gals., 1.5c; 240,000 to 480,000 gals., 1c; 480,000 gals. and over, 0.5c.

S. O. Ohio

Sohio X-70 Gasoline

	Consumer T.W.	Tax	Total Consumer T.W.		Kerosine T.W.
Ohio Statewide	12.5	5	17.5	‡	*13.5
Counties below statewide gasoline schedule: Ashtabula, Butler, Champaign, Clarke, Clermont, Columbiana, Darke, Fayette, Fairfield, Franklin, Greene, Hamilton, Jefferson, Knox, Licking, Lucas, Madison, Mahoning, Miami, Montgomery Pickaway, Preble, Ross, Trumbull and Warren:	11.5	5	16.5	....	....
Paulding	11	5	16	....	....

Renown (Third Grade Gasoline)

Ohio Statewide	12	5	17	‡	....
Counties below statewide gasoline schedule: Butler, Clermont, Darke, Hamilton, Greene, Miami, Montgomery, Preble and Warren:	11.5	5	16.5	....	....
Ashtabula, Champaign, Clarke, Columbiana, Fairfield, Fayette, Franklin, Jefferson, Knox, Licking, Lucas, Madison, Mahoning, Pickaway, Ross, and Trumbull	11	5	16	....	....
Paulding	9	5	14	....	....
Counties above statewide schedule: Hocking and Summit	12.5	5	17.5	....	....

Kerosine Prices

(Off Statewide Level)

Kerosine prices are off statewide level in the following counties:

Gallia *13

Allen, Ashtabula, Auglaize, Champaign, Columbiana, Darke, Fulton, Hancock, Hardin, Henry, Logan, Mahoning, Mercer, Portage, Preble, Putnam, Shelby, Summit, Trumbull, Union, Van Wert and Wyandotte *12.5

Defiance and Paulding *12

Statewide Prices to Resellers & Agents

(These gasoline prices are based on low of Group 3, 68-70 octane, gasoline tank car market as published in Platt's Oilgram, to the nearest 0.5c).

Including taxes	†Undivided Accounts	Divided Accounts	**Authorized Agents
Sohio X-70	16	16.5	16.5
Renown (3rd grade)	15.5	16	16

‡Effective Sept. 16, 1936, S. O. Ohio began leasing service stations to dealers. No statewide s.s. price available although the company does post s.s. prices locally at points where it still operates stations.

Sales tax: Ohio's 3% sales tax, effective Jan. 27, 1935, is added "where assessable, to regular posted prices," S. O. Ohio says.

*Kerosine prices include 1c state tax.

†Excluding authorized agents.

**Excluding 0.5c rental.

Discounts to commercial contract tank wagon consumers only: on all motor gasolines, thru Ohio, effective Sept. 16, 1936, except counties mentioned hereafter, off posted t.w. price, on deliveries per month: 1,000 to 9,999 gals., 1.5c per gal.; 10,000 gals. and over, 2.5c. Under 1,000 gals., posted t.w. price. Single deliveries of less than 25 gals., on X-70 and Ethyl, 2c above consumers, t.w. price; Renown, 1c above. Q. D. A. is off statewide schedule in the following counties: Allen, Ashtabula, Auglaize, Columbiana, Darke, Defiance, Franklin, Fulton, Hamilton, Hancock, Hardin, Henry, Jefferson, Logan, Lucas, Mahoning, Medina, Mercer, Putnam, Ross, Shelby, Trumbull, Union, Van Wert and Williams: for this information, write National Petroleum News.

Discounts on kerosine: to dealers and commercial consumers, 3c per gal. off t.w. price, any quantity.

S. O. Kentucky

Crown Gasoline

	T.W.	Taxes	Total T.W.	S.S.	Kerosine T.W.
Lexington, Ky.	12	6	18	20	11
Louisville, Ky.	12	6	18	20	10
Paducah, Ky.	10.75	6	16.75	17.5	8
Covington, Ky.	11.5	6	17.5	19.5	10.5
Jackson, Miss.	13	7	20	22	*12.5
Vicksburg, Miss.	12.5	7	19.5	**	*12.5
Birmingham, Ala.	13	*8	21	23	12
Mobile, Ala.	11	*9	20	21	11
Montgomery, Ala.	11.5	*9	20.5	21	*14
Macon, Ga.	13	7	20	22	*14
Atlanta, Ga.	13.5	7	20.5	22.5	*13
Augusta, Ga.	12.5	7	19.5	21	*13.5
Savannah, Ga.	11.5	7	18.5	20.5	*12.5
Jacksonville, Fla.	10	8	18	20	11.5
Miami, Fla.	11.5	8	19.5	21.5	12.5
Tampa, Fla.	10	8	18	20	11.5
Pensacola, Fla.	12.5	*9	21.5	23.5	12

Kyso (Third Grade)

Lexington, Ky.	10.5	6	16.5	18	....
Louisville, Ky.	10.5	6	16.5	18	....
Paducah, Ky.	7.5	6	13.5	14	....
Covington, Ky.	10	6	16	17.5	....
Jackson, Miss.	11.5	7	18.5	20	....
Vicksburg, Miss.	9.5	7	16.5	**	....
Birmingham, Ala.	11	*8	19	20	....
Mobile, Ala.	8.5	*9	17.5	18	....
Montgomery, Ala.	8.5	*9	17.5	18	....
Atlanta, Ga.	10.5	7	17.5	18	....
Augusta, Ga.	9	7	16	16.5	....
Macon, Ga.	10	7	17	17.5	....
Pensacola, Fla.	10.75	*9	19.75	21	....

Dealer Discount: off posted s.s. price, on Crown and Crown Ethyl gasolines to "undivided" dealers 4c; on Kyso, 3c. To "divided" dealers: Crown and Ethyl, 3.5c, and Kyso, 2.5c, all effective on or about Jan. 1, 1934.

Discounts to tank wagon consumers: all single deliveries of 50 gals. or less, get posted s.s. price: all single deliveries of 50 gals. or more, to be billed at posted t.w. price, plus following discounts, off posted t.w. price: Ethyl and Crown gasoline, 50 to 2,999 gals. monthly, 1.5c; Kyso, 1c; 3,000 to 24,999 gals., Ethyl and Crown, 2c; Kyso, 1.5c; 25,000 gals. or more, Ethyl and Crown, 3c; and Kyso, 2.5c.

Above prices include these inspection fees on both gasoline and kerosine, per gallon, figured on basis of 50 gallons per barrel:

Alabama, 1/40c on gasoline, 1/2c on kerosine; Arkansas, 1/5c per gal. in a single barrel, 1/20c per gal. in bulk; Florida, 1/8c; Illinois, 3/100c; Indiana, 1/2c per gal. in a single barrel; 3/10c per gal. in lots of 2 to 10 bbls., 1/5c for 10 to 50 bbls., 2/25c for over 50 bbls. Kansas, 1/50c, (3/50c can be charged to meet inspection department expenses); Louisiana, 1/32c; Minnesota, 1/25c; Missouri, 3/100c; Nebraska, 3/100c, Nevada, gasoline, 1/20c; North Carolina, 1/4c; North Dakota, 1/20c; Oklahoma, 2/25c per gal., in lots of more than 50 bbls., 1/5c in lots less than 50 bbls. South Carolina, 1/8c; South Dakota, 1/10c; Tennessee, 2/5c; and Wisconsin, 1/25c.

Kerosine inspection fee only: Iowa, 2/25c; Michigan, 4/5c per gal. for first 2 bbls.; 3/5c for next 3; 2/5c for next 5; 3/10c for next 15, and 1/5c per gal. in lots over 25 bbls.

TANK WAGON, SERVICE STATION MARKETS

Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect Oct. 12, 1936, as posted by principal marketing companies at their headquarters offices, but subject to later corrections

S. O. Kentucky (Cont'd)

**Taxes*: in the tax column is included these city and county gasoline taxes at the following points: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Mississippi kerosine prices include 1c state tax. Montgomery kerosine price includes 1c city tax.

**S. O. Kentucky transferred stations to dealers; no prices available.

S. O. Indiana

	Tax	Red Crown Total T.W.	Red Crown	Dealer Prices Stano-lind	Kero-sine T.W.
Chicago, Ill.	4	15.4	13.4	13.4	9.2
Decatur, Ill.	4	15.4	13.9	13.9	9.2
Joliet, Ill.	4	14.5	13.9	13.9	9.2
Peoria, Ill.	4	15.4	13.9	13.9	9.2
Quincy, Ill.	4	15.2	13.7	13.7	9.0
Indianapolis, Ind.	*5	17.3	15.8	15.8	‡13
Evansville, Ind.	*5	17.1	15.6	15.1	‡13.7
South Bend, Ind.	*5	17.5	16	16	‡13
Detroit, Mich.	4	15.0	13.5	13.0	8.8
Grand Rapids, Mich.	4	15.4	13.9	13.9	9.3
Saginaw, Mich.	4	15.6	14.1	14.1	10.1
Green Bay, Wis.	5	17.1	15.6	15.6	9.9
Milwaukee, Wis.	5	16.7	15.2	14.2	9.5
La Crosse, Wis.	5	16.8	15.3	15.3	9.6
Minneapolis-St. Paul	4	15.8	14.3	14.3	9.6
Duluth, Minn.	4	16.2	14.7	14.7	10
Mankato, Minn.	4	15.8	14.3	14.3	9.6
Des Moines, Ia.	4	15.2	13.7	13.3	9.0
Sioux City, Ia.	4	15.4	13.9	13.9	9.2
Davenport, Ia.	4	15.4	13.9	13.9	9.2
Mason City, Ia.	4	15.6	14.1	12.4	9.4
St. Louis, Mo.	†4	15.1	13.6	13.6	8.9
Kansas City, Mo.	†4	14.8	13.3	13.3	8
St. Joseph, Mo.	†4	14.8	13.3	13.3	8.6
Fargo, N. D.	4	16.8	15.3	15.3	10.6
Minot, N. D.	4	18.0	16.5	16.5	11.8
Huron, S. D.	*5	17.3	15.8	15.8	10.1
Wichita, Kans.	4	14.3	11.5	10.5	8.0

†St. Louis, Kansas City and St. Joseph prices include 1c city tax. ‡Includes 4c state tax.

*South Dakota gasoline and kerosine prices include 0.1c for sales tax. Indiana t.w. and dealer gasoline prices include 0.2c for chain store tax.

Note: Effective July 1, 1935 in Iowa, and Sept. 11, 1936, in Indiana, Kansas, Michigan, Minnesota, Missouri, South Dakota and Wisconsin, and effective Oct. 1, 1936 in Illinois and North Dakota, S. O. Indiana discontinued posting service station prices, posting only a t.w. and a dealer price.

***Discount to commercial consumers*:** Effective Jan. 1, 1935, thru territory, except Michigan effective Feb. 1, on purchases per month, discount off t.w. prices; all gasolines, 25 to 1,000 gals., at t.w. price; 1,000 gals., or more, 1.5c off t.w. on Ethyl and Red Crown, and 0.5c on Stanolind. Minimum delivery is 25 gals. These discounts to commercial consumers also apply in Illinois and North Dakota.

Subnormal Stanolind Points

Normally Stanolind tank wagon prices are 1c under normal Red Crown t.w. prices. Among subnormal points on Stanolind t.w. are these: Detroit, 13.5c; Des Moines, 14.1c; Mason City, 13.9c; Huron, 16c; and Wichita, 11.5c, all including state and federal taxes.

S. O. Nebraska

Standard Red Crown Gasoline

Omaha, Neb.	11.8	6	17.8	19.8	9.5
McCook, Neb.	12.5	6	18.5	20.5	10.2
Norfolk, Neb.	12.2	6	18.2	20.2	9.9
North Platte, Neb.	12.6	6	18.6	20.6	10.3
Scottsbluff, Neb.	13.3	6	19.3	21.3	11

Reliance Gasoline (Third Grade)

Omaha, Neb.	10	6	16	16	....
McCook, Neb.	11.5	6	17.5	18.9	....
Norfolk, Neb.	11.2	6	17.2	19.2	....
North Platte, Neb.	11.6	6	17.6	19.6	....
Scottsbluff, Neb.	12.3	6	18.3	20.3	....

***Discount to dealers*:** where service station gasoline prices are normal, resellers' allowance off service station prices are (*Maximum* over-all, including rent) as follows: Reliance 2½c; Standard Red Crown, and Solite with Ethyl, 3½c. Where service station gasoline prices are below normal, resellers' allowances are reduced one-half of the amount below normal, down to the following (*Minimum* over-all including rent): Reliance, 2c, Standard Red Crown and Solite with Ethyl, 3c.

***Discounts to consumers*:** for tank wagon deliveries covered only by Standard Commercial Consumer Contract, effective January 1, 1935.

S. O. Louisiana

Essolene

	Consumer Tank Car	Dealer T.W.	Taxes	Posted S.S.	Kero-sine T.W.
Little Rock, Ark.	7.5	10	7.5	**	11.5
Alexandria, La.	7.5	10	8	**	*11
Baton Rouge, La.	7	9.5	8	21	*11.5
New Orleans, La.	7	9.5	*10	23	*13
Lake Charles, La.	8	10.5	8	**	*10
Shreveport, La.	6.5	9	8	20.5	*10
Lafayette, La.	8	10.5	8	**	*12.5
Bristol, Tenn.	10	11.25	8	**	14.5
Chattanooga, Tenn.	9.5	12	8	**	11.5
Knoxville, Tenn.	10	12.5	8	24	14
Memphis, Tenn.	8	10.5	8	22	9.5
Nashville, Tenn.	9	11.5	8	23	10

*New Orleans gasoline tax includes 7c state, 1c federal, and 2c parish tax. Louisiana kerosine prices include 1c state tax; in addition New Orleans has 1c parish tax.

**S. O. Louisiana transferred stations to dealers; no prices available.

***Price basis to dealers*:** Undivided dealers get dealer price, less 0.5c.

***Price basis to commercial consumers*:** Effective Feb. 11, 1935, commercial consumers not under contract will be billed at 2.5c per gal. above posted bulk plant tank car price at time and place of delivery in lots of 50 gals. or more at one time. Contract customers will be billed at following differentials over tank car price, on yearly purchases: up to 35,999 gals., 2.5c over tank car price; 36,000 to 119,999 gals., 2c over; 120,000 to 239,999 gals., 1.5c; 240,000 to 479,999 gals., 1c; 480,000 gals. and over, 0.5c.

On single deliveries to all classes of commercial consumers, of less than 50 gals., s.s. price at time and place of delivery applies.

Humble Oil & Refining Co.

Humble Motor Fuel

	*100% T.W.	Dlr. Taxes	*100% T.W.	Dlr. S.S.	Kero-sine T.W.
Dallas, Tex.	8.5	5	13.5	17	8.5
Ft. Worth, Tex.	8.5	5	13.5	17	8.5
Houston, Tex.	9	5	14	18	8.5
San Antonio, Tex.	9	5	14	18	8.5

U. S. Motor Fuel (Third Grade)

Dallas, Tex.	7	5	12	14	....
Ft. Worth, Tex.	7	5	12	14	....
Houston, Tex.	8	5	13	16	....
San Antonio, Tex.	8	5	13	16	....

***Price is t.w. price to contract dealers and commercial consumers. Price to open dealers is 0.5c above t.w. prices shown above.**

***Price basis to dealers*:** to contract dealers consumer accounts off posted retail price: when posted retail price, including all taxes on Esso motor fuel is: 19.1c per gal. and above discount is 4c; 19c to 18.1c, 3.5c; and 18c and below, 3c. Humble motor fuel, 17.1c and above, 4c; 17 to 16.1c, 3.5c; and 16c and below, 3c; U. S. motor fuel, 15.1c and above, 3c; 15 to 14.1c, 2.5c; and 14c and below, 2c. To "open" dealer accounts, discounts in each case are 0.5c less on the same price basis.

Continental Oil

Conoco Bronze Gasoline

	T.W.	Total Taxes	T.W.	S.S.	Kero-sine T.W.
Denver, Colo.	14	5	19	21	11
Grand Junction, Col.	15	5	21.5	23.5	15
Pueblo, Colo.	14	5	19	21	10
Casper, Wyo.	14.5	5	19.5	21.5	11.5
Cheyenne, Wyo.	14.5	5	19.5	21.5	13
Billings, Mont.	16.5	6	22.5	24.5	14.5
Butte, Mont.	15	6	21	23	14.5
Great Falls, Mont.	16.5	6	22.5	24.5	14.5
Helena, Mont.	16.5	6	22.5	24.5	14.5
Salt Lake City, Utah.	16	5	21	23	16
Boise, Ida.	16.5	6	22.5	24.5	18
Twin Falls, Ida.	17	6	23	25	18
Albuquerque, N. M.	12.5	†6.5	19	21	13
Roswell, N. M.	13.5	†6.5	20	22	10
Santa Fe, N. M.	14.5	*7	21.5	23.5	12
Ft. Smith, Ark.	9.5	5	14.5	**	8
Little Rock, Ark.	9.5	7.5	17	**	9.5
Texarkana, Ark.	9.5	5	14.5	18.5	8.5

Demand (Third Grade)

Denver, Colo.	12	5	17	19	....
Cheyenne, Wyo.	12.5	5	17.5	19.5	....
Helena, Mont.	14.5	6	20.5	22.5	....
Salt Lake City, Utah.	12	5	17	19	....
Boise, Ida.	14.5	6	20.5	22.5	....
Albuquerque, N. M.	10.5	†6.5	17	19	....
Roswell, N. M.	9	†6.5	15.5	17.5	....

Continental Oil—Cont'd

Demand (Third Grade)

	T.W.	Total Taxes	T.W.	S.S.	Kero-sine T.W.
Santa Fe, N. M.	10	*7	17	19	....
Ft. Smith, Ark.	8.75	5	13.75	**	....
Little Rock, Ark.	8.75	7.5	16.25	**	....
Texarkana, Ark.	7	5	12	14	....

†Includes city tax of 0.5c.

*Includes 1c city tax.

**Continental Oil transferred stations to dealers: no prices available.

***Discounts*:** effective March 1, 1934, on gasolines thru territory, off normal s.s. price, except Montana, to "undivided" dealers: Ethyl and Conoco Bronze, 4c; Demand, 3c; except Arkansas, 3.25c. To "divided" dealers thru territory: Ethyl and Conoco Bronze, 3.5c; Demand, 2.5c, except Utah and Idaho where full 100% or undivided dealer discount is applied to divided dealers also; thru Montana, effective March 24, 1936, on gasoline, off t.w. price to "undivided" dealers: Ethyl and Conoco Bronze, 2c; Demand, 1c; to "divided" dealers: Ethyl and Conoco Bronze, 1.5c; Demand 0.5c. In Arkansas, all dealer discounts are reduced by one-half the difference between the normal s.s. and the posted price, when such posted prices are subnormal.

OKLAHOMA

	Tax	Dealer T.W. Conoco Bronze	Prices Demand	Kero-sine T.W.
Muskogee	5	14	13	8
Oklahoma City	5	14	13	8
Tulsa	5	14	10	8

S. O. California

Standard Gasoline

San Francisco, Cal.	13	4	17	18	11.5
Los Angeles, Cal.	12.5	4	16.5	17.5	9
Fresno, Cal.	13.5	4	17.5	18.5	11
Phoenix, Ariz.	15	6	21	22	†16
Reno, Nev.	14.5	5	19.5	20.5	13
Portland, Ore.	13.5	6	19.5	20.5	13.5
Seattle, Wash.	13.5	6	19.5	20.5	13.5
Spokane, Wash.	16.5	6	22.5	23.5	16.5
Tacoma, Wash.	13.5	6	19.5	20.5	13.5

Flight Gasoline (Third Grade)

San Francisco, Cal.	11.5	4	15.5	16.5	....
Los Angeles, Cal.	11	4	15	16	....
Fresno, Cal.	12	4	16	17	....
Reno, Nev.	13	5	18	19	....
Phoenix, Ariz.	13.5	6	19.5	20.5	....
Portland, Ore.	12	6	18	19	....
Seattle, Wash.	12	6	18	19	....
Spokane, Wash.	15	6	21	22	....
Tacoma, Wash.	12	6	18	19	....

†Includes 5c state tax.

***Discount to dealers*:** on gasoline, off t.w. price on Standard Ethyl and Standard Gasoline, to 100% dealers, 3c; to split dealers, 2c; on Flight gasoline, both 100% and split dealers, 2c.

On Stanavo Aviation Gasoline, to all classes of dealers, 3c off t.w.

***To commercial consumers*:** off tank wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery on Stanavo Aviation, Standard Ethyl and Standard Gasolines, 3c. Flight Gasoline, 2c per gallon. S.s. schedule applies on single deliveries less than 40 gallons.

On kerosine in tank car, transport truck and trailer delivery, 3c off t.w. price; plant deliveries to jobbers, 2.5c below t.w.

Canada

Prices of Imperial Oil Ltd.

Per Imperial Gallon, which is 1.2 U. S. Gallons

Three Star Imperial Gasoline

Hamilton, Ont.	15	6	21	23.5	17
Toronto, Ont.	15	6	21	23.5	17
Brandon, Man.	22.8	7	29.8	32.8	22.3
Winnipeg, Man.	21.2	7	28.2	31.2	20.7
Regina, Sask.	22.5	7	29.5	32.5	22
Saskatoon, Sask.	25.3	7	32.3	35.3	24.8
Edmonton, Alta.	23.5	7	30.5	33.5	24.2
Calgary, Alta.	21	7	28	31	21.5
Vancouver, B. C.	15	7	22	26	23
Montreal, Que.	12.5	6	18.5	*	17.5
St. John, N. B.	16	8	24	28	18.5
Halifax, N. S.	16	8	24	28	18.5

*Imperial Oil Ltd. transferred stations to dealers; no prices available.

***Discounts to dealers*: *off s.s. prices*:**

Maritime Provinces, 4c to all classes of dealers. Quebec, except Montreal City, Prairie Provinces and British Columbia, except Vancouver, 3c to divided dealers, 4c to undivided dealers. Ontario and Montreal City, 2½c to divided dealers, 3½c to undivided dealers, Vancouver, 5c to undivided dealers, 4c to divided, off t.w. price 1c to undivided dealers.

TANK WAGON, SERVICE STATION MARKETS

Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect Oct. 12, 1936, as posted by principal marketing companies at their headquarters offices, but subject to later corrections

Aviation Gasoline

Following are tank car and or tank wagon prices of aviation gasoline in principal marketing territories (Stanavo aviation in all territories except Continental Oil.) Tax column includes 1c federal tax, and state tax; also municipal taxes as indicated in footnotes.

In Effect Oct. 12, 1936

S. O. New Jersey

	Tank Car	T.W.
Bayonne, N. J.	10	12
Baltimore, Md.	10	12
Washington, D. C.		12.6
Richmond, Va.		14.2
Greensboro, N. C.		14.7
Raleigh, N. C.		16.6
Charleston, W. Va.		14.2

Colonial Beacon Oil Co.

	T.W.
Brooklyn, N. Y.	12.8
Buffalo, N. Y.	14.1
Boston, Mass.	14.5

S. O. Pennsylvania

Philadelphia, Pa.	13.1
Pittsburgh, Pa.	13.9

S. O. Louisiana

New Orleans, La.	12.3
Shreveport, La.	12.6

Prices in above four territories do not include state or federal taxes. They are for 74 octane grade aviation gasoline. An 80 octane product generally brings 0.5c premium and an 87 octane product, 1.5c premium over the 74 octane grade.

Note: S.s. prices in above four territories are generally 6c over t.w prices. Above t.w. prices are net, with no discounts allowed for quantity purchases. T.w. prices are generally tank car price, plus freight, plus 2.5c per gal.

S. O. Ohio

Thru Ohio

	Consumer T.W.	Tax	Total Consumer T.W.
Stanavo Ethyl Aviation:			
73 octane	15.5	5	20.5
80 octane	16.5	5	21.5
87 octane	17.5	5	22.5

Discounts: For delivery on contract to hangar operators and resellers: 2c below commercial consumer posted t.w. price.

S. O. Indiana

Chicago, Ill.	14.4	4	18.4
Indianapolis, Ind.	15.3	5	20.3
Detroit, Mich.	15.9	4	19.9
Milwaukee, Wisc.	14.7	5	19.7
Minneapolis, Minn.	14.8	4	18.8
St. Louis, Mo.	13.1	*4	17.1
Kansas City, Mo.	13.8	*4	17.8
Fargo, N. D.	15.8	4	19.8
Huron, S. D.	15.3	5	20.3
Wichita, Kans.	13.3	4	17.3

*Includes 1c city tax.
**Includes 0.1c to cover sales tax.

Humble Oil & Refining Co.

	Tank Car
Baytown, Tex. (exclusive of taxes)	8.5

Continental Oil Co.

	T.W.	Tax	Total T.W.
Denver, Colo.	17	5	22
Cheyenne, Wyo.	17.5	5	22.5
Helena, Mont.	19.5	6	25.5
Salt Lake City, Utah.	19	5	24
Albuquerque, N. M.	15.5	*6.5	22

*Includes city tax of 0.5c.

S. O. California

Phoenix, Ariz.	17	6	23
Los Angeles, Cal.	14.5	4	18.5
San Francisco, Cal.	15	4	19
Reno, Nev.	16.5	5	21.5
Portland, Ore.	15.5	6	21.5
Seattle, Wash.	15.5	6	21.5
Spokane, Wash.	18.5	6	24.5

Note: For discounts, etc., see note under Standard and Flight gasoline above.

Naphtha (In Tank Wagon)

In Effect Oct. 12, 1936

(Net price in Tank Wagon; in Cents per Gallon)

S. O. New Jersey

	Mineral Spirits	V.M.&P. Naphtha
Baltimore, Md.	14	15.5
Newark, N. J.	12.5	14.5
Washington, D. C.	14	**17.5

**Steel bbls. only.

Socony-Vacuum Oil Co.

Buffalo, N. Y.	11.5	12.5
New York City	10.5	11.5
Rochester, N. Y.	12	....
Syracuse, N. Y.	14	....
Boston, Mass.	13	13.5
Bridgeport, Conn.	13	13.5
Providence, R. I.	13	14

2c off above t.w. prices in above two territories to large buyers in some instances.

Atlantic Refining Co.

Philadelphia, Pa.	11.5	12.5
Lancaster, Pa.	13	14
Pittsburgh, Pa.	12.5	14.5

Note: Prices for Mineral Spirits also apply to Stoddard Solvent; and prices for V. M. & P. Naphtha apply also to Light Cleaners Naphtha.

S. O. Ohio

	S. R. Solvent	V.M.&P. Naphtha
Thru Ohio	13.25	13.75

Note: V.M.&P. Naphtha prices also apply on Dry Cleaners naphtha and special Varnolene; Varnolene and Sohio Solvent 0.5c below these prices. Discounts to contract consumers, off t.w price: 300 to 999 gals., 0.5c; 1,000 to 2,499 gals., 0.75c; 2,500 to 4,999 gals., 1c; 5,000 or more gals. 1.5c.

S. O. Indiana

	Oleum Spirits	V.M.&P. Naphtha	Stanisol
Chicago, Ill.	16.2	16.5	15
Detroit, Mich.	17.9	19	18
Kansas City, Mo.	13.3	14.3	13.3
St. Louis, Mo.	13.6	14.6	12.5
Milwaukee, Wis.	18.2	19.2	18.2
Minneapolis, Minn.	17.3	18.3	16.4

Note: Prices for V.M&P. apply also to Light Cleaners Naphtha. All prices, with exception of Missouri points, include state tax. Prices shown are base prices, before discounts.

Naphtha (In Tank Cars)

In Tank Cars (F.o.b. refinery or seaboard terminal except Ohio, delivered price.)

	V.M.&P. Naphtha	Solvent
Baltimore	10	9.5
New York Harbor	10	9
Philadelphia district	10	9.5
Providence	10	9.5
Ohio points, delivered	9.25	*8.75

*This is on S.R. solvent.

Note: In Ohio, prices on D.C. naphtha and special Varnolene are same as V.M.&P.; on Varnolene and Sohio Solvent, prices are 0.5c less than on V.M.&P.

Latest Changes

From Oct. 6 to Oct. 12 inclusive. Dates and amounts of changes shown. See table for full current prices. Changes are on gasoline unless kerosine is indicated.

Socony Vacuum Oil—Socony Mobilgas:

Boston, t.w. cut 0.5c, Oct. 13. This price not reflected in the table as prices shown are effective as of Oct. 12.

Atlantic Refining—White Flash Plus:

Philadelphia, cut 1.5c, Oct. 7.

S. O. Ohio—X-70 and Renown:

Columbiana County, t.w. up 0.5c, Oct. 7.

Corrections

Notation of amount of change and dates not previously shown in table. Table in this issue is corrected to show these changes. Changes are on gasoline unless kerosine is indicated.

S. O. New Jersey—Essolene:

Annapolis, dealer t.w. cut 0.5c, Oct. 3.

Socony Vacuum Oil—Socony Mobilgas:

Bangor, t.w. cut 1c, Sept. 30.

Rutland, t.w. cut 1.5c, Sept. 16.

Concord and Lancaster, t.w. up 0.5c, June 11.

S. O. Kentucky—Crown:

Paducah, t.w. cut 0.25c, Oct. 5.

Montgomery, t.w. cut 0.5c, s.s. cut 1c, Sept. 19.

Augusta, t.w. up 0.75c, s.s. up 1.5c, Sept. 28.

Kyso:

Vicksburg, t.w. cut 1.25c, Sept. 17.

Montgomery cut 1c, Sept. 19.

S. O. Indiana—Stanolind:

Milwaukee, cut 1c, Sept. 26.

Evansville, cut 0.5c, Oct. 3.

Toledo Properties Sold

CHICAGO—The sale of Johnson Oil Refining Co. properties in Toledo to the Gulf Refining Co., was announced here by I. H. Johnson, president of the former company. The sale involved one bulk plant, and 13 service stations.

Mr. Johnson stated the properties were sold on account of the inability of Johnson to ship advantageously to Toledo from the company's refinery at Cleveland, Okla.

Consider Socialistic Bill

NEW YORK — The special session of the Mississippi legislature, which started this week, is studying legislation which will "balance agriculture with industry" within the state.

The principal bill now before the legislature would allow sub-divisions of the state to engage in industrial activities, under the general supervision of a "Mississippi Industrial Commission," which would be appointed for that purpose.

The bill states in part, that "each county, supervisory district and municipality may acquire industrial enterprises, and issue bonds or other obligations therefor, to operate such industries, to dispose of them and generally make such contracts relative to such industries as are essential."

"HOW DO OUR ADS WORK FOR YOU—MR. ZOOK?"

CALL FOR tougher TIRES
IT'S A NEW KIND OF TIRE FOR TODAY'S DRIVING
Rain or Shine YOU'RE SAFE ON KELLYS
Those KELLYS stop Safe Quick!
Announcing the TOUGHEST TRUCK TIRE KELLY EVER BUILT!
Any Roads OK with KELLYS

Our Question:

"Are you satisfied with Kelly's national advertising?"

His Answer:

"We think you're doing a swell job. I'm willing to bet that those Saturday Evening Post ads are the most talked-of tire advertisements of the year. We can actually feel them pull. We've never before known such cooperation, such careful programming, such appealing advertising. Your kind of help makes our whole force really keen to sell Kellys."

Kelly's Franchise meets Petroleum Marketers' Requirements!

1 Kelly will continue to sell through its own present retailers, with the addition of a limited number of desirable, carefully selected new ones in all parts of the country.

2 These retailers will be contacted by Kelly-Springfield's own present sales organization.

3 Kelly dealers have a simplified line that permits rapid turnover of their inventory, yet places them in a position to meet squarely the requirements of every type of buyer.

4 They will enjoy a buying price designed to keep them in an enviable competitive position.

5 They will have at their command immediate service from adequate sources of supply, through our fully-stocked warehouses at strategic points throughout the country.

6 They will have the selling support of sound, continuous and aggressive advertising in leading national magazines, together with an intelligent cooperative program for aiding them in their own local efforts.

7 They will have the close personal cooperation in every way of a strong manufacturing company determined to grow.

The Kelly-Springfield Franchise . . . backed by the strongest resources in the industry . . . offers unique opportunities for tire dealers. You've seen our national advertising—now find out about our successful plans for developing sales through service stations. Just write to E. S. Burke, President.

THE KELLY-SPRINGFIELD TIRE CO.

CUMBERLAND, MARYLAND

NEW REFINING PATENTS

Coking. No. 2 051 354, issued Aug. 18, 1936; filed Sept. 13, 1933; D. L. Thomas, assignor to Gasoline Products Co.; one drawing; 4 claims.

PROCESS particularly adapted to use with cracking wherein the cracking and distillation are carried on separately from the coking of the residuum produced. Residuum is brought while hot into contact with a bath of molten metal. Decomposition takes place leaving coke which collects on the surface of the molten metal.

* * *

Cracking. No. 2 051 776, issued Aug. 18, 1936; filed March 22, 1935; E. Petty and H. C. Schutt, assignors to Gyro Process Co.; one drawing; 7 claims.

THE patent relates particularly to the recovery of a clean cracking stock from asphaltic or bitumen containing crude residuums and heavy tarry residuum of a cracking operation. The method is said to provide efficient separation of bituminous material without the complete high temperature coking operation. The low hydrogen to carbon ratio constituents are removed at low temperatures by means of an anti-solvent.

In the process charge oil is treated with a diluent in which bituminous constituents are insoluble. The undissolved constituents are removed and the treated oil fractionated. Reflux condensate from the fractionation is subjected to mild pyrolytic conversion yielding a primary residue and a relatively light fraction. The latter is given more drastic conversion yielding a light fraction and a relatively heavier secondary residue. The last named light fraction is returned to the fractionating zone. The primary residue is combined with the oil passing to the solvent treating zone and the secondary residue is removed from the process.

* * *

Breaking emulsions. Nos. 2 050 923-4-5-6-7-8-9-30, issued Aug. 11, 1936 and 2 052 281-2-3-4, issued Aug. 25, 1936; filed Sept. 16 to Dec. 21, 1935; M. De Groote, W. C. Adams, B. Keiser, and A. F. Wirtel, assignors to Tretolite Co.; no drawings; 68 claims.

THESE 12 patents cover the use of a number of treating agents as follows: a compound characterized by the presence of at least two triricinolein residues or residues from other similar hydroxylated fatty glycerides (preferably commercial castor oil), and at least one oxalic acid residue; a water-soluble, cation-active, surface-active substance such as cetyl pyridinium bromide; a sulfo-carboxylic amide body such as a mixture of sulfonic acid sodium salts of the anilides of the different acids of cocoanut oil; an agent obtained by a reaction involving oxy-hendecenoic acid acting as an acid; a compound characterized by the presence of both an oxy-hendecenoic acid residue and an oxy-octadecadiene acid residue in the same molecule; a compound characterized by the presence of both an oxy-hendecenoic acid residue and a keto fatty acid residue derived from castor oil in the same molecule; a compound characterized by the presence of both an oxy-octadecadiene acid residue and a keto fatty acid residue derived from castor oil in the same molecule; a compound characterized by the presence of both an oxy-hendecenoic acid residue and a dicarboxy acid residue in the same molecule; a chemical compound characterized by the presence of both an oxy-octadecadiene acid residue and a dicarboxy acid residue in the same molecule; a compound characterized by the presence of both a keto fatty acid residue derived from castor oil and a dicarboxy acid residue in the same molecule; an ester of hptoic acid derived from a hydroxy acid body; and a compound of the formula type: $(R.COO)_m.T.(OH)_m$, in which R.COO represents a non-sulfo, detergent-forming, monocarboxy acid radical, T represents a polyhydric alcohol residue, and m indicates the numeral one or more, and R and T being additionally characterized by freedom from an extraneous acid residue.

August Gasoline Demand

WASHINGTON, Oct. 10.—Domestic demand for gasoline in August totaled 46,081,000 barrels, representing an increase of 7 per cent over a year ago, according to the Bureau of Mines. The bureau said that this was not quite up to expectations, being less than July. Consumption generally reaches its peak in August, it was pointed out.

Both Louisiana with a 226,600 barrel daily average, and Kansas, with 168,800 barrels, established new highs on production and New Mexico, with 75,200, equaled its record. Texas, with 1,204,500 barrels, and Oklahoma, 586,400 barrels, produced more than for any month in three years.

California was the only important producing state which did not substantially increase its production in August, its daily average of 578,200 being less than 4000 barrels higher than the July figure.

Promoters Indicted

CHICAGO, Oct. 9.—Federal postal authorities, and investigators for the Interior Department have smashed a "confidence ring" which has been swindling many thousands of investors in a fake oil promotion, it is claimed. Nine were indicted Oct. 9 by a federal grand jury.

The indictment charges that they claimed there were available to American citizens tracts and parcels of land suitable for farming and which were potential oil and gas lands in Wyoming.

The indictment charges also that it was claimed these lands were taken back by the government from certain major oil companies after the so-called Teapot Dome scandal and that they were offered to investors at from 10 to 50 cents per acre.

25 British Independents Join to Aid 'Gas' Sales

LONDON, Sept. 16.—Twenty-five non-combine concerns in the British gasoline industry have arranged to bind themselves together. Behind some of these firms are huge business interests.

The largest stockholder in one of the companies concerned is a real estate millionaire; Harris and Dixon, the shipowners, are at the back of the Anglo-Dutch Petroleum Co., while Stephenson Clarke, Ltd., important coal concern, is interested in another leading company.

At the moment the independents are getting together in the form of a federation registered as a limited company. These companies say that the consumption of gasoline advances in this country by around 7½ per cent to 10 per cent annually. They are anxious to secure their proportion of the increase. They may put a standard brand on the market under the trade name of the federation.

The big oil companies pay a rebate to distributors who retail their products only, but there are still nearly 4000 stations in the United Kingdom which find it worth while to forego the rebate in order to handle non-combine spirit.

The independents are handicapped by the fact that tetra-ethyl-lead, the "non-pinking" compound, is supplied by the Ethyl Gasoline Corp. only to the combine companies and Trinidad Leaseholds. In order to compete, the independents have been compelled to concentrate on getting up the octane value of their gasoline in the refining stage.

Money for Australian Oil

LONDON — The Australian Federal Cabinet has decided that £50,000 of the £250,000 subsidy for oil discovery shall be reserved to companies and individuals engaged in geological surveys on the basis of £1 for £2 spent by searchers.

All Grades Of

FUEL OIL ACTIVE

COLD, wet weather in many areas stimulated demand for light fuel oils last week, while demand for heavy fuels reached a new peak as steel mill and other industrial operations reached about the highest level in six years. As a result, all grades of fuel were steady to higher, except where certain local conditions, mostly of temporary character, were unsettled.

That the bunker oil market was still tight was demonstrated when two cargoes of Grade C oil sold at $0.95 a barrel, f.o.b., Gulf for late October lifting. This was an advance of 5 cents a barrel over previous quotations.

Some sellers were asking higher prices for the Nos. 5 and 6 oils, but higher prices were not generally established. Demand was heavy, however, with railroads and industrial plants taking about all the oil they could obtain.

* * *

TULSA, Oct. 10.—Light and heavy fuel oils vied with each other for the market spotlight last week. Both grades were in active demand, with buyers reporting some difficulty obtaining supplies.

The heavy oil had the advantage over light fuel oils in that supplies of this oil actually were scarce, while supplies of the light oils were only closely held.

Heavy fuel oils enjoyed the attention of three classes of buyers—railroads, industrial concerns and road builders. The railroads have been consistent buyers for the past few years. Their takings, however, have fluctuated with the volume of freight hauled. Car loadings, according to reports, are at the highest level in six years. Consequently, consumption of oil by railroads have increased considerably. At present many railroads have large quantities of fuel bought under contract. Volume of contract fuel apparently is insufficient to fill requirements of some roads. Therefore, a few railroads were inquiring for additional supplies in the open market.

Steel mills and other industrial concerns are running full blast, according to trade papers, and their requirements for heavy oil have increased to the point where Chicago district refiners are unable to supply their needs. These industrial plants are sending buyers into the Mid-Continent. They are prepared to place orders for fuel oil requirements on a three-month basis. they were asking for either contract or open market bids.

Oiled road construction has been a factor in the heavy oil market, although possibly not such a direct factor as those mentioned above. Kansas and Oklahoma refiners who specialize in road oils report that sale of this product has cut materially into output of heavy fuels.

Brisk demand for heavy fuel has pulled down the excessive stocks some refiners had accumulated.

Light fuel oils continued in active demand and refiners still were limiting open market sales. Most suppliers apparently believed they could realize more from their heating oil by holding it until later in the season.

No change was noted in cracking stocks.

* * *

NEW YORK, Oct. 10.—Fuel oil markets along the eastern seaboard were without any marked change the past week, traders generally said. Demand for light fuel oils at seaboard terminals for movement in tank cars and barges was consistent, but not unusually active for this season, suppliers reported.

Prices for light fuel oils were unchanged at all terminals except New York harbor, where some suppliers dropped their quotations from 4 cents to 3.75 cents for tank car lots of No. 4 oil. Other suppliers, however, continued to ask 4 cents for this grade and insisted that only small quantities were available at under that figure. At least one large refiner still was offering No. 4 at 3.75 cents, but was doing little business in the open market.

Heavy fuel oils were steady during the week. Occasional reports of "chiseling" in tank wagon markets for these oils were heard, but most traders said that such actions were limited as the tight market for bunker oil at the Gulf and the firmness in the boat charter market left little room for price cutting in the northern seaboard markets.

* * *

CHICAGO, Oct. 10.—Fuel oils were active and tending higher in the Mid-Western market the week ended Oct. 10. Cold, damp weather has stimulated consumption, and, likewise, wholesale demand for the light grades of fuel.

No. 1 oil was fractionally higher in all quarters, with 3.125 cents minimum for prime white oil. Nos. 2 and 3 oils were tightly held and actively sought, resulting in higher prices in some quarters. The No. 3 oil was especially difficult to obtain, resellers reported.

Industrial fuel oils were in good position in all quarters. As the week ended many sellers were asking higher prices for No. 5 fuel. No. 6 oil also was bringing higher prices in some instances, sellers said.

Industrial demand for the heavier grades of fuel was steady, sellers said. No appreciable build-up of supply available to Chicago sellers was apparent.

FUEL OILS

Following are tank wagon prices of various grades of heating oil at the points shown in various territories. Prices are in cents per gallon.

Prices in Effect Oct. 12, 1936

	No. 1	No. 2	No. 3	No. 4
S. O. New Jersey				
Newark, N. J.	7.25	6.50	6.50	6.50
Atlantic City, N. J.	8	6.5	6.5	6
Baltimore, Md.	8	6	6	5.5
Washington, D. C.	8.00	6.75	6.75	6.75

Discounts: At Newark and Atlantic City, purchasers taking 50,000 gals. get discount of 0.5c per gal.

Socony-Vacuum Oil Co., Inc. (S. O. New York Division)				
New York City	7	6.50	6.50	6.00
Albany, N. Y.	7.75	6.50	6.50	6.25
Rochester, N. Y.	8.25	7.00	7.00	7.00
Boston, Mass.	7	6.25	6.25	6.25
Bangor, Me.	8	6.50	6.50	6.50
Manchester, N. H.	8	7.00	7.00	7.00
Burlington, Vt.	8.75	7.00	7.00	7.00
New Haven, Conn.	7.5	6.25	6.25	6.25
Providence, R. I.	7.00	6.50	6.50	6.00

Discounts: At New York City, consumers taking 10,000 to 50,000 gals., get 0.25c per gal. discount when minimum amount has been reached; above 50,000 gals., 0.5c.

Atlantic Refining				
Philadelphia, Pa.	6.75	5.50	5.50	5.00
Allentown, Pa.	7.75	6.50	6.50	6.50
Wilmington, Del.	7.25	6.00	6.00	5.50
Springfield, Mass.	7.50	6.00	....	6.00
Worcester, Mass.	7.75	6.75	....	6.75
Hartford, Conn.	7.00	6.50	....	6.50
S. O. Ohio				
*Ohio Statewide	8	7.50	7	6.75

Note: S. O. Ohio prices are for hose dumps; bucket dumps are 0.5c per gallon higher.

Except Cleveland Division and City of Toledo. In Cleveland Division (Cuyahoga, Lake and Geauga counties), No. 1 price is same as statewide; Nos. 2, 3 and 4 are 0.5c higher; No. 5 is priced 0.25c lower than No. 4. In Toledo No. 2 is 0.5c lower than statewide, others same.

S. O. Indiana

Stanolex Fuel and Furnace Oils

	No. 1 Fuel	Stanolex Furnace
Chicago	6.75	6.75
Indianapolis	....	*11.7
Detroit	6.8	6.8
Milwaukee	8	7.3
Minneapolis	7	7
Sioux City	7.8	7.1
St. Louis	7.5	6.8
Kansas City	7.2	6.5

*Includes state tax of 4c.

Note: Small-lot deliveries of light fuel oils range up to 2c higher than above quotations.

Fire Fighting Demonstration

NEW YORK, Oct. 8.—T. Alfred Fleming, of the National Board of Fire Underwriters and Harry E. Newell, mayor of Bloomfield, N. J., were guest speakers at the demonstration of fire fighting equipment staged by Walter Kidde & Co. at its Bloomfield plant Oct. 8. Talks were given on the necessity for fire prevention and Mr. Fleming gave some instances of the success of Fire Prevention Week, which was being celebrated at the time.

The demonstration was staged to show the effectiveness of the company's line of "Lux" systems and portable fire extinguishers. The tests included the extinguishing of fires against a burning building, a flaming motorboat, a burning tank truck and others.

CRUDE OIL MARKETS

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates as given

Eastern Fields

Posted by Joseph Seep Purchasing Agency

(Effective Jan. 13, 1936, except Corning Sept. 18, 1936)

Penna. Grade Oil in Southwest Penna. Pipe Lines $2.17
Penna Grade Oil in Eureka Pipe Lines (West Virginia) $2.12
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O.) $1.97
Corning Oil in Buckeye Pipe Lines (Ohio) $1.32

Posted by Other Companies

Tide Water Pipe Co., Ltd.
Bradford-Allegheny district (Penna. and N. Y.) (Effective Jan. 13, 1936) $2.45
*The Pennzoil Co.: (Effective Jan. 13, 1936)
Penna. Grade Oil in National Transit Lines* $2.42
Ashland Oil & Transportation Co.:
Somerset Oil in Ashland Lines (Ky.):
(Effective Jan. 9, 1936)
Big Sandy River $1.30
Kentucky River $1.38

*The Pennzoil Co. posts $2.42 in Cochran, Franklin, Hamilton and Doolittle, Pa. fields; prices in other lower districts range down to $2.37 per bbl. at well.

Michigan

Posted by Pure Oil Co.

Midland, Midland County (Sept. 16, 1936) $1.32

Posted by Simrall Pipe Line Corp.

(Effective Sept. 16, 1936)

West Branch and equal grades $1.16
Beaverton, Crystal, Greendale, Porter and equal grades $1.32

Central States Fields

Posted by Ohio Oil Co.

(Effective Jan. 9, 1936)

Illinois, Princeton, Western Kentucky .. $1.23

(Effective Sept. 22, 1936)

Lima $1.15

Posted by Stoll Oil Refining Co.

(Effective Jan. 9, 1936)

Stoll Pipe Line Oil (Ky.) $1.28

Canadian Fields

Posted by Imperial Oil Refineries, Ltd.

Western Ontario

(Effective Sept. 9, 1933)

Petrolia $2.10
Oil Springs $2.17

Alberta—Turner Valley

(Prices f.o.b. field tankage)

(Effective Feb. 3, 1936)

Crude:		Naphtha:	
40-44.9	$1.55	†Clear	$2.70
45-49.9	$2.12	†Discolored	$2.46
50 and above	$2.32		

†Clear naphtha: 22 color; 10 lbs. vapor pressure, Reid method; 90% recovery; end point, 410°. Discolored naphtha: same specifications as for clear naphtha except color.

Mid-Continent

Posted by Stanolind Crude Oil Purchasing Co.

(Effective Jan. 9, 1936)

(In Oklahoma Kansas)	(In North-North Central Texas)
Below 29 ..... $0.94	$0.84
29-29.9 ..... 0.96	0.86
30-30.9 ..... 0.98	0.88
31-31.9 ..... 1.00	0.90
32-32.9 ..... 1.02	0.92
33-33.9 ..... 1.04	0.94
34-34.9 ..... 1.06	0.96
35-35.9 ..... 1.08	0.98
36-36.9 ..... 1.10	1.00
37-37.9 ..... 1.12	1.02
38-38.9 ..... 1.14	1.04
39-39.9 ..... 1.16	1.06
40 and above 1.18	1.08

Above Stanolind prices met as follows:

Jan. 9, by The Texas Co. in North and North Central Texas; Continental Oil in all three states.

Note: Stanolind prices in Okla.-Kans. are for quantities computed by 97% tank tables. In Texas, 99% tank tables are used, volume corrected to 60° F., and deduction for full b.s. & w. content.

Posted by Carter Oil Co.

In Oklahoma

(Effective Jan. 9, 1936)

Below 25	$0.86	33-33.9	$1.04
25-25.9	0.88	34-34.9	1.06
26-26.9	0.90	35-35.9	1.08
27-27.9	0.92	36-36.9	1.10
28-28.9	0.94	37-37.9	1.12
29-29.9	$0.96	38-38.9	$1.14
30-30.9	0.98	39-39.9	1.16
31-31.9	1.00	40 and above	1.18
32-32.9	1.02		

Jan. 9, Carter's Oklahoma gravity and price schedule met in Oklahoma-Kansas by Sinclair Prairie, and Humble's West Central Texas schedule met in North and North Central Texas where Sinclair-Prairie buys. Same day, Shell Petroleum met Carter in full in Oklahoma-Kansas.

Posted by Magnolia Petroleum Co.

(Effective Jan. 9, 1936)

In Oklahoma, same schedule as Carter Oil, which see above, beginning with below 25, at $0.86 and ending with 40 & above, at $1.18.

In Texas: North and North Central, including Burkburnett, Archer, Stephens, Henrietta, Electra, Comanche and Olden; and in Central Texas, including Mexia, Wortham, and Panola county, same gravity and price schedule as Humble in West Central Texas, which see below, beginning with below 29 at $0.84, and ending with 40 and above, at $1.08.

Posted by Humble Oil & Refining Co.

Texas Fields

(*West Central Texas)

(Effective Jan. 9, 1936)

Below 29	$0.84	35-35.9	$0.98
29-29.9	0.86	36-36.9	1.00
30-30.9	0.88	37-37.9	1.02
31-31.9	0.90	38-38.9	1.04
32-32.9	0.92	39-39.9	1.06
33-33.9	0.94	40 and above	1.08
34-34.9	0.96		

*Includes Brown, Callahan, Coleman, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, Throckmorton and Young counties.

Shell Petroleum Corp., on Jan. 9, met Humble in Fisher county, except that Shell posts five lower grades, beginning with below 25 gravity at $0.76; 25-25.9, $0.78; 26-26.9, $0.80; 27-27.9, $0.82; and 28-28.9, $0.84; rest of schedule same as Humble's in West Central Texas.

†Effective Dec. 1, 1934, Humble prices are based on 99% tank tables at 60F. Allowance or deduction of 1% is made for each 25° change in temperature above or below 60F.

*East Central Texas

(Effective Jan. 9, 1936)

Below 29	$0.91	35-35.9	$1.05
29-29.9	0.93	36-36.9	1.07
30-30.9	0.95	37-37.9	1.09
31-31.9	0.97	38-38.9	1.11
32-32.9	0.99	39-39.9	1.13
33-33.9	1.01	40 and above	1.15
34-34.9	1.03		

*Including Anderson, Cherokee, Limestone, Navarro and Van Zandt counties.

Stanolind Oil & Gas Co., Jan. 20, posted in Marion County (East Central Texas), below 29 oil at $0.86, plus 2c differential, to 40 and above at $1.10.

Jan. 9, Sinclair-Prairie met Humble's prices in Mexia.

Panhandle Texas

Posted by Humble Oil & Refining Co.

(Effective Jan. 9, 1936)

	Gray County	Carson-Hutchinson
Below 35	$0.86	$0.81
35-35.9	0.88	0.83
36-36.9	0.90	0.85
37-37.9	0.92	0.87
38-38.9	0.94	0.89
39-39.9	0.96	0.91
40 & above	0.98	0.93

Jan. 9, above prices met by Sinclair-Prairie, Magnolia and The Texas Co. in the entire area, also by Continental Oil in Carson-Hutchinson.

East Texas

(Effective Jan. 9, 1936)

Stanolind, Humble, Shell, Sinclair-Prairie, Texas, Sun Oil and Magnolia $1.15

Shell also posted on Jan. 9, in Livingston area, Polk County, Texas, $1.15.

West Texas and New Mexico

Posted by Humble Oil & Refining Co.

(Effective Jan. 14, 1936)

(Including Andrews, Crane, Crockett, Ector, Glasscock, Howard, Winkler and Upton Counties, Texas, and Lea county, New Mexico).

Below 29	$0.75	33-33.9	$0.84
29-29.9	0.76	34-34.9	0.86
30-30.9	0.78	35-35.9	0.88
31-31.9	0.80	36 & above	0.90
32-32.9	0.82		

Pecos, West Texas $0.85

Posted by Continental Oil Co.

(Effective Jan. 9, 1936)

Artesia, Jackson and Maljamar pools, N. M. $0.80

Jan. 16, Magnolia met Humble in Crane, Upton, Howard, Glasscock, Mitchell and Winkler.

Jan. 9, Texas Co. posted Winkler and Lea counties at $0.85; Crane and Upton, $0.80.

Shell Petroleum Corp., on Jan. 23, met Humble in Crane, Glasscock, Howard, Pecos (except Yates shallow pool), Winkler, and Upton counties, Tex., and in Lea County, N. Mex. On Jan. 9, Shell posted in Yates shallow pool in Pecos county, Tex., $0.75.

Northeast Texas

(Posted by Humble, April 15, 1936)

Talco $0.60

(Posted by Magnolia, May 1, 1936)

Cass County (Rodessa field):
Below 29 ..... $0.86
29-29.9 ..... 0.88
Rest of schedule same as S. O. La. posts in Rodessa, which see below.

South and Southwest Texas

Posted by Humble Oil & Refining Co.

(Effective Jan. 14, 1936)

Darst Creek	$0.97	Pettus	$1.25
Salt Flat	0.97	Tomball	1.30
Saxet	0.90	Mirando	0.85

Shell Pet. Corp. on Jan. 9, posted $0.97 in Salt Flat district, Tex.

Anahua (Chambers county) and Dickinson (Galveston county)

(Effective Jan. 9, 1936)

30-30.9	$1.04	36-36.9	$1.16
31-31.9	1.06	37-37.9	1.18
32-32.9	1.08	38-38.9	1.20
33-33.9	1.10	39-39.9	1.22
34-34.9	1.12	40 & above	1.24
35-35.9	1.14		

Jan. 9, The Texas Co. posted $0.97 for Darst Creek.

Jan. 9, Magnolia posted $0.97 in Darst Creek; $1.30 in Tomball; $0.90 in Luling; $1.00 in Lytton Springs; $0.85 for Mirando; $1.10 for Cleveland, Liberty county, Tex.; $1.03 in Hardin, Liberty county, Tex.

Posted by Humble

Conroe and Raccoon Bend

(Deep sand crudes)

(Effective Jan. 9, 1936)

35-35.9	$1.24	38-38.9	$1.30
36-36.9	1.26	39-39.9	1.32
37-37.9	1.28	40 & above	1.34

Jan. 9, Texas Co. met above prices.

North Louisiana-Arkansas

Posted by Standard Oil Co. of Louisiana

(Effective Jan. 10, 1936)

(In Caddo, Homer, Haynesville, Sabine, De Soto, Rodessa, Sarepta, Carterville, El Dorado, and Miller county).

Below 25	$0.78	33-33.9	$0.96
25-25.9	0.80	34-34.9	0.98
26-26.9	0.82	35-35.9	1.00
27-27.9	0.84	36-36.9	1.02
28-28.9	0.86	37-37.9	1.04
29-29.9	0.88	38-38.9	1.06
30-30.9	0.90	39-39.9	1.08
31-31.9	0.92	40 and above	1.10
32-32.9	0.94		

Smackover, Ark $0.75
Nevada, Ark 0.65
Urania, La. (La. Oil Refg. Co., Jan. 1, '34) 0.87
Tepetate, La. (Continental Oil, Jan. 9, '36) $1.12

The Texas Co., effective Jan. 9, posted in No. La.-Ark. same prices as Humble posts in West Central Texas. It also posted $0.80 for Smackover and $1.12 for La Fitte, La.

Magnolia Petroleum Co., effective Jan. 16, posted on No. La.-Ark. crude, prices beginning with $0.86 for below 29 gravity, plus 2 cent differential to 40 and above, at $1.10; this posting includes Rodessa, beginning March 16, 1936. It also posted on the same day, Eldorado (East Field), and Smackover, Ark., $0.75; Lockport, La., below 20 gravity, at $0.92, plus 2c differential, to 34 and above, which is $1.22; and for Iowa, La. and Cameron-Meadow field Cameron Parish, La., below 20 at $0.82, plus 2c differential, to 34 and above, at $1.12.

Stanolind Oil & Gas Co., Jan. 20, posted in Caddo Parish, La., below 29 oil at $0.86, plus 2c differential, to 40 & above at $1.10.

Shell Pet. on Jan. 9, posts same schedule in Black Bayou and White Castle, La. as Magnolia posts in Lockport, which see in above paragraph and in Iowa district, La. posts same schedule as Magnolia in Iowa and Cameron, which also see above.

(*Continued on next page*)

Three Rate Reductions Announced by ICC

WASHINGTON, Oct. 8.—The Interstate Commerce Commission in the last week has granted permission for three reductions in rail rates on oil to be made on less than 30 days statutory notice. The changes are:

Cut in rates on crude oil shipped from new wells near Weaver, Saltillo, White Oak and Hager, Texas, to Texas ports for export, in order to handle the flush production which the extension of the Talco Field south to Hopkins City has caused and to prevent immediate extension of pipelines to the new field.

Cut from 20 to 19 cents per 100 pounds on gasoline, illuminating or burning refined oil and petroleum naphtha, shipped from Scotch Cap, Conn., to Brattleboro, Vt., to prevent loss of traffic to motor trucks. The new rate is to expire next Dec. 31.

Advance in effective date of reduction from 8.8 cents to 7 cents per 100 pounds on crude petroleum shipped from Rodessa or Sandra to North Baton Rouge and Good Hope, La., to allow competition with pipelines for expected shipment of a million barrels for export.

"Magic Gas" Is Cited

WASHINGTON—The Federal Trade Commission has issued a complaint against P. A. Lefebvre and Co. Ltd., of Alexandria, Ont., Can., and Zatique Lacomb, charging them with unfair competition in sales of "Magic Gas," supposed to solve the gasoline problem.

Respondents have allegedly advertised that "Magic Gas," when mixed with gasoline or kerosine and used in internal combustion engines of motor vehicles, eliminates knocks or carbon trouble, increases mileage and engine power, saves gasoline or oil, makes cars pick up easier and quicker, the commission says.

The FTC says these statements are not true and that they mislead purchasers and divert trade from competitors who truthfully advertise their products.

Nov. 6 has been set as the final date when respondents may show cause why they should not be ordered to cease and desist from these practices.

CRUDE OIL MARKETS

(Continued from preceding page)

*Gulf Coastal Fields

Posted by Humble Oil & Refining Co.

(Effective Jan. 9, 1936)

Below 18	$0.88	26-26.9	$1.06
18-18.9	0.90	27-27.9	1.08
19-19.9	0.92	28-28.9	1.10
20-20.9	0.94	29-29.9	1.12
21-21.9	0.96	30-30.9	1.14
22-22.9	0.98	31-31.9	1.16
23-23.9	1.00	32-32.9	1.18
24-24.9	1.02	33-33.9	1.20
25-25.9	1.04	34 and above	1.22
Refugio heavy	$0.90		

Effective Dec. 1, 1934, Humble prices are based on 99% tank tables at 60F Allowance or deduction of 1% is made for each 25° change in temperature above or below 60F.

*Includes these fields: Barbers Hill, Goose Creek, Hull, Humble, Liberty, Moss Bluff, Mykawa, Orange, Pierce Junction, Rabbs Ridge, Raccoon Bend (shallow sand), Refugio light, Sour Lake, Spindletop, Sugarland, and West Columbia.

Above gravity and crude schedule met Jan. 9 by The Texas Co., except that Texas Co. posts $0.92 for below 20. Jan. 9, Sinclair-Prairie met above Humble schedule in full.

Rocky Mountain Fields

Posted by Stanolind Oil & Gas Co.

(Effective Jan. 9, 1936)

Salt Creek, Midway and Dutton Creek, Wyo., same schedule as Stanolind posts in Oklahoma-Kansas which see.

Grass Creek, heavy	$0.72
Greybull-Torchlight	1.28
Iles, light, Col.	1.06
Iles, heavy	1.00
Hogback, N. M.	1.21
Frannie light (Effective Feb. 24, '36)	0.78
Frannie heavy	0.72
Hamilton Dome, Wyo.	0.67

(Effective July 20, 1936)

Elk Basin, light	$1.18
Grass Creek, light	1.18

Pondera, Mont., (Postings discontinued July 1, 1936, but Stanolind pays price posted by Ohio Oil for Kevin-Sunburst, less 20c per bbl.)

Posted by Ohio Oil Co.

(Effective July 20, 1936)

Elk Basin, Wyo.	$1.18
Grass Creek, light	1.18

(Effective Jan. 9, 1936)

Rock Creek	$1.12
Big Muddy	1.11

(Effective June 5, 1936)

Sunburst, Mont.	$1.15

Posted by *International Refg. Co.

(Effective June 5, 1936)

Cut Bank, Mont.

Below 35°	$1.29	38-38.9	$1.37
35-35.9	1.31	39-39.9	1.39
36-36.9	1.33	40 and above	1.41
37-37.9	1.35		

*Texas Co. subsidiary.

Posted by Continental Oil Co.

(Effective Jan. 9, 1936)

Cat Creek, Mont.	$1.28

CALIFORNIA, Posted by Standard Oil of California

All gravities above those quoted take highest price offered in the field. Effective Feb. 26, 1936 except Huntington Beach, Playa del Rey, Santa Fe Springs, Kern Front, Signal Hill (Long Beach) effective March 7, 1936, and Elk Hills, effective June 22, 1936

Gravity	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda Brea Canon	Athens Rosecrans	Dominguez	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	‡Newhall and others	Mountain View	Elk Hills	Buena Vista Hills **Midway-Sunset	Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$0.80	0.79	0.74	0.78	0.79	0.80	0.76	....	....	0.80	0.76	0.76	0.77	0.78	....	0.70	....	0.70	0.70	0.65	0.70	0.70	....
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	.65	.70	.70	....
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	.65	.70	.70	....
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	.65	.70	.70	....
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	.82	.76	.76	.77	.78	....	.70	....	.70	.70	.65	.70	.70	....
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	.85	.76	.78	.77	.78	....	.70	.70	.74	.74	.66	.74	.71	0.70
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	.88	.78	.82	.77	.80	....	....	.70	.78	.78	.68	.78	.72	.70
21-21.9	.88	.79	.74	.89	.93	.93	.88	....	....	.91	.80	.85	.77	.84	.78	....	.73	.82	.82	.71	.82	.74	.70
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	.93	.84	.89	.79	.88	.78	....	.77	.87	.87	.74	.86	.78	.72
23-23.9	.95	.86	.77	.96	.99	1.02	.96	.84	.79	.96	.88	.93	.82	.92	.78	....	.80	.92	.92	.77	.90	.82	.76
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	.99	.91	.96	.85	.96	.82	....	.84	.97	.97	.80	.94	.86	.79
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	1.20	.95	....	.89	.99	.86	....	.88	1.01	1.01	.83	.98	.90	.83
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	1.05	.98	....	.92	1.03	.90	....	.91	1.06	1.06	.86	1.02	....	....
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1.03	.88	....	1.02	....	.96	1.06	.95	....	.95	1.10	1.10	.88	1.06	....	....
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1.07	.90	....	1.06	....	.99	1.10	.99	....	.99	1.15	1.15	.91	1.10	....	....
29-29.9	1.17	1.15	.93	1.18	1.18		1.17	1.12	.93	....	1.09	....	1.03	1.14	1.03	....	1.02	1.20	1.20	.94	1.14	....	....
30-30.9	1.21	1.19	.95	1.22	1.21		1.21	1.17	.95	....	....	....	1.07	1.17	1.08	....	1.06	1.25	1.25	.97	1.18	....	....
31-31.9					1.24		1.24	1.22	.97	....	....	....	1.11	1.21	1.12	....	1.09	1.29	1.29	.99			
32-32.9		*Elwood Terrace		....	1.27		1.27	1.27	1.00	....	....	....	1.14	1.25	1.16	....	1.13	1.34	1.34	1.02	Kettleman Hills		
33-33.9	....	1.28	....	....	....		....	1.32	....	....	....	....	1.18	1.28	1.20	....	1.17	1.38	1.38	1.04	....	1.19	....
34-34.9	....	1.32	....	....	....		....	1.37	....	....	....	....	1.22	1.32	1.25	....	1.20	....	....	....	....	1.23	....
35-35.9	....	1.35	....	....	....		....	1.42	....	....	....	....	1.25	....	1.29	....	....	....	....	....	....	1.27	....
36-36.9	....	1.39	....	....	....		....	1.46	....	....	....	....	1.29	....	1.33	....	....	....	....	....	....	1.31	....
37-37.9	....	1.43	....	....	....		....	1.51	....	....	....	....	1.32	....	1.37	....	....	....	....	....	....	1.35	....
38-38.9	....	....	....	....	....		....	1.56	....	....	....	....	1.36	....	1.42	....	....	....	....	....	....	1.39	....
39-39.9	....	....	....	....	....		....	1.61	....	....	....	....	1.40	....	....	....	....	....	....	....	....	1.43	....
40-40.9	....	....	....	....	....		....	1.66	....	....	....	....	1.43	....	....	....	....	....	....	....	....	....	....

F.O.B. Standard Pipe Line

*F. o. b. ship.
‡Also McKittrick, Kern River, Kern Front and Round Mountain $0.70 thru 19.9 gravity; no higher gravity quoted. **Except Lakeview Area.

SEABOARD MARKETS, EXPORT AND COASTWISE

Prices do not include Federal tax. Where $ mark is shown, prices are per barrel of 42 U. S. gallons

Eastern Domestic

(Prices in cents per gallon tank car lots, unless otherwise noted, f.o.b. refinery or seaboard terminal, representing majority of sales and quotations to jobbers and/or consumers. Florida and S. Carolina inspection tax not included.)

*Motor Gasoline

Prices Oct. 12	60-64 Octane	65 Octane and Above
New York harbor	6.50	6.50 – 6.75
New York harbor, barges	†6.25	6.25 – 6.50
Philadelphia district	6.50 – 6.75	6.75 – 7.00
Baltimore district	6.50	6.50 – 6.75
Norfolk district	6.50 – 6.75	7.00
Wilmington, N. C. district	6.75	7.00
Charleston, S. C. district	6.75	7.00
Savannah district	6.75	7.00 – 7.25
Jacksonville district	6.75	7.00 – 7.25
Portland district	7.00 – 7.25	7.25 – 7.50
Boston district	6.50 – 6.75	6.75 – 7.00
Boston district, barges	6.25 – 6.50	6.50 – 6.75
Providence district	6.50 – 6.75	6.75 – 7.00
Providence district, barges	6.25 – 6.50	6.50 – 6.75

*Due to lack of companies offering U. S. Motor gasoline, 59 octane and below in the open market, prices for this grade are discontinued. Quotations nominally are 0.25c below those for 60-64 octane grade.

†Nominal.

Water White Kerosine

Prices Oct. 12			
New York harbor	4.50 – 4.625	Savannah district	5.25
N. Y. harbor, barges	4.375– 4.50	Jacksonville district	5.25
Philadelphia district	4.50 – 4.75	Portland district	5.125
Baltimore district	4.50 – 4.625	Boston district	4.625
Norfolk district	4.625	Boston dist., barges	4.50
Wilmington, N. C.	4.625	Providence district	4.625
Charleston, S. C. dist.	4.625	Providence, barges	4.50

*Fuel Oils

Prices Oct. 12	New York harbor	New York harbor, barges	Philadelphia district
No. 1	4.50 – 4.625	4.375– 4.50	4.50 – 4.75
No. 2	4.25 – 4.375	4.125– 4.25	4.25
No. 3	4.25 – 4.375	4.125– 4.25	4.25
No. 4	3.75 – 4.00	3.625– 3.875	3.75 – 4.00
No. 5 (per barrel)	$1.35	.....	$1.35
No. 6 (per barrel)	$1.15	.....	$1.15

	Baltimore district	Boston district
No. 1	4.50 – 4.625	4.625
No. 2	4.25	4.25
No. 3	4.25	4.25
No. 4	3.75 – 4.00	4.25
No. 5 (per barrel)	$1.35	$1.45
No. 6 (per barrel)	$1.15	$1.15

	Boston dist., barges	Providence district	Providence dist., barges
No. 1	4.50	4.625	4.50
No. 2	4.125	4.25	4.125
No. 3	4.125	4.25	4.125
No. 4	4.125	3.75 – 4.00	3.625

*Fuel oils meet specifications of U. S. Commercial Standards CS12-35.

	Bunker Oil Grade C Per Barrel	Diesel Oil Ships' Bunkers Per Barrel	Gas Oil 28-34 Gravity Per gallon	Diesel Oil Shore Plants Per gallon
New York harbor	*$1.15	*$1.65	4.25	4.25
Philadelphia dist.	*$1.15	*$1.65	4.25	....
Baltimore district	*$1.15	*$1.65	4.25	....
Norfolk district	*$1.15	*$1.785	4.25	....
Charleston district	$1.10	$1.65	....	....
Savannah district	$1.10	$1.89	....	4.75
Jacksonville dist.	$1.10	$1.995	....	4.75
Tampa district	$1.10	$1.995	....	....
Portland district	$1.25	$1.75	....	....
Boston district	$1.15	*$1.65	....	....
Providence district	$1.15	$1.65	....	....

*Lighterage for bunker oil, 5c per bbl. additional; for Diesel oil, 6.5c per bbl. additional.

Pacific Export

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

Prices—	Oct. 12	Oct. 5	Sept. 28
53-55 U. S. Motor	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25
400 e.p. blend 65 Octane and above	5.25 – 5.75	5.25 – 5.75	5.25 – 5.75
38-40 w.w. kerosine, 150 fire point	4.00 – 5.00	4.00 – 5.00	4.00 – 5.00
41-43 w.w. kerosine	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00
44 water white kerosine	5.00	5.00	5.00
Prime wh. kerosine	3.25 – 4.25	3.25 – 4.25	3.25 – 4.25
In Cargo lots, per barrel			
Diesel fuel oil, above 23.9°	$1.05 –$1.25	$1.05 –$1.25	$1.05 –$1.25
Diesel fuel oil, under 23.9°	$1.00 –$1.10	$1.00 –$1.10	$1.00 –$1.10
30-34 gas oil	$0.95 –$1.10	$0.95 –$1.10	$0.95 –$1.10
Grade C fuel oil	$0.75 –$0.90	$0.75 –$0.90	$0.75 –$0.90
Pacific Export (cont'd)	Oct. 12	Oct. 5	Sept. 28
In Ships' Bunkers, or deep tank lots, per barrel:			
Diesel fuel oil, above 23.9 gravity	$1.15 –$1.25	$1.15 –$1.25	$1.15 –$1.25
Diesel, under 23.9 gravity	$1.05 –$1.15	$1.05 –$1.15	$1.05 –$1.15
Grade C fuel oil	$0.90 –$1.00	$0.90 –$1.10	$0.90 –$1.00
Cased Goods:			
Gasoline, U. S. Motor	$1.30 –$1.50	$1.30 –$1.50	$1.30 –$1.50
Gasoline, 400 e.p. blend	$1.45 –$1.65	$1.45 –$1.65	$1.45 –$1.65
38-40 w.w. kerosine, 150 fire point	$1.20 –$1.30	$1.20 –$1.30	$1.20 –$1.30
Kerosine, prime white	$1.15 –$1.25	$1.15 –$1.25	$1.15 –$1.25

New York Export

(Prices in cents per gallon in barrels, F.a.s. New York)

Cylinder Oils (Pennsylvania Products)

Bright stock:			
Light, 25 pour point	27.50	28.00	28.00
Dark, 25 pour point	27.00	27.50	27.50
Neutral oil:			
200 3 color, 25 pour point	28.00	27.50	27.50
150 3 color, 25 pour point	24.50	24.00	24.00
600 Warren E filtered,	22.50 –23.00	22.50 –23.00	22.50 –23.00
600 stm. rfd., unfiltered	19.75 –20.00	20.00 –20.50	20.00 –20.50
650 stm. rfd. unfiltered	21.50	21.50	21.50
600 flash, steam refined	22.50	22.50	22.50
630 flash, steam refined	24.00	24.50	24.50

Wax Domestic *and* Export

(Prices in cents per pound. Tests made by A. S. T. M. methods. Melting points shown below, however, are A. M. P., 3° higher than A. S. T. M. (E. M. P.) melting points. Export prices are f.a.s. carload lots. Domestic prices are f.o.b. refineries in New York and New Orleans districts, in bags, carload lots, with 0.2c discount allowed for shipment in bulk.)

	New York		New Orleans	
Prices—Oct. 12	*Domestic*	*Export*	*Domestic*	*Export*
124-6 Y.C. scale	2.40 – 2.45	2.40 – 2.45	2.40 – 2.45	2.40 – 2.45
122-4 W.C. scale	2.40 – 2.45	2.40 – 2.45	2.40 – 2.45	2.40 – 2.45
124-6 W.C. scale	2.45 – 2.50	2.45 – 2.50	2.45 – 2.50	2.45 – 2.50
123-5 Fully refined	4.45	4.125	4.45	4.125
125-7 Fully refined	4.55	4.25	4.55	4.25
128-30 Fully refined	4.80	4.50	4.80	4.50
130-2 Fully refined	5.05	4.75	5.05	4.75
133-5 Fully refined	*5.35	5.25	*5.35	5.25
135-7 Fully refined	*5.60	5.50	....	....

*Shipment either in bags or in bulk.

Gulf Coast

(Prices are f.o.b. ship at Gulf oil terminals representing traders' opinions except prices specified to the contrary. Prices cover bulk shipments of 20,000 barrels or more, unless otherwise noted.)

Motor Gasoline

For Domestic Shipment

Prices—	Oct. 12	Oct. 5	Sept. 28
59 octane and below	5.50	5.50	5.50
60-64 octane number	5.875	5.875	5.875
65 octane and above	6.00	6.00	6.00

Fuel Oils

No. 1 Fuel oil	3.875– 4.00	3.75 – 3.875	3.75 – 3.875
No. 2 Fuel oil	3.375– 3.50	3.375	3.375
No. 4 Fuel oil	3.125– 3.25	3.125– 3.25	3.125– 3.25

Kerosine

41-43 w.w.	4.00	3.75 – 3.875	3.75 – 3.875

Gasoline

For Export Shipment

U. S. Motor gasoline	5.125	5.125	5.125
60-62, 400 e.p. gasoline	5.25	5.25	5.25
61-63, 390 e.p. gasoline	5.375	5.375	5.375
64-66, 375 e.p. gasoline	5.50	5.50	5.50

Kerosine

44 water white	4.125	4.125	4.125
41-43 water white	3.75 – 3.875	3.75	3.75
41-43 prime white	3.625– 3.75	3.625– 3.75	3.625– 3.75

(Continued on next page)

SEABOARD MARKETS, EXPORT AND COASTWISE

Prices do not include Federal tax. Where $ mark is shown, prices are per barrel of 42 U. S. gallons

(Continued from preceding page)

Gas and Bunker Oils

For Domestic and/or Export Shipment

Prices—	Oct. 12	Oct. 5	Sept. 28
*26-30 translucent gas oil	3.125- 3.25	3.125- 3.25	3.125- 3.25
*30 plus translucent gas oil	3.125- 3.25	3.125- 3.25	3.125- 3.25
*30 plus transp. gas oil	3.25	3.25	3.25
Diesel Oil Ships' bunkers	$1.50	$1.50	$1.50
Grade C bunker oil, for ships' bunkers, per bbl.	†$0.95	†$0.95	†$0.90
Grade C bunker oil, per bbl. in cargoes	$0.95	‡$0.90	‡$0.875-$0.90

*Less than ½ of 1% sulphur. †Lighterage 5c per bbl. additional. ‡Nominal.

Mexican Crude and Bunker Oils

(F.o.b. Steamer, Tampico)

Heavy Panuco crude taxes to be paid, per bbl.	*$0.95	*$0.95	*$0.92 -$0.93
Grade C bunker oil, ships' bunkers, taxes paid, per bbl.	$0.95	$0.95	$0.90

*Nominal

Mid-Continent Lubricating Oils

(Prices in cents per gallon in bbls. f.a.s. Gulf terminals. In drums and new barrels, 0.5c to 1c higher per gal. in some instances.)

190-200 vis. D 210 bright stock	26.50	26.50	26.50
150-160 vis. D. 210 bright stock			
0-10 pour point	23.50	23.50	23.50
10-25 pour point	23.00	23.00	23.00
25-40 pour point	22.50	22.50	22.50
150-160 vis. E 210 brt. stock	22.50	22.50	22.50
120 vis. D 210 bright stock	21.50	21.50 -22.00	21.50 -22.00
180 vis. No. 3 color neutral Oil:			
0-10 pour point	17.00 -17.25	17.25 -17.50	17.25 -17.50
15-30 pour point	16.25	16.25 -16.50	16.25 -16.50
200 vis. No. 3 color neutral oil:			
0-10 pour point	17.75	17.75 -18.00	17.75 -18.00
15-30 pour point	16.75	16.75 -17.00	16.75 -17.00

Mid-Continent Lubricating Oils (Cont'd)

Prices—	Oct. 12	Oct. 5	Sept. 28
600 s.r. olive green	12.25	12.50	12.50
600 s.r. dark green	11 00	11.00 -11.25	11.00 -11.25
631 s.r.	18.00 -18.50	18.00 -18.50	18.00 -18.50

South Texas Lubricating Oils

(Viscosity at 100° F., pour point 0. Tanker, f.o.b. Gulf oil terminals, for export shipment)

Vis. Color			
Unfiltered Pale Oils:			
100 No. 3	5.25 - 5.50	5.25 - 5.50	5.25 - 5.50
200 No. 3	6.375- 7.00	6.375- 7.00	6.375- 7.00
300 No. 3	7.00 - 7.50	7.00 - 7.50	7.00 - 7.50
500 No. 3½	7.875- 8.50	7.875- 8.50	7.875- 8.50
750 No. 4	9.00 - 9.25	9.00 - 9.25	9.00 - 9.25
1200 No. 4	9.25 - 9.50	9.25 - 9.50	9.25 - 9.50
2000 No. 4	9.75 -10.25	9.75 -10.25	9.75 -10.25
Red Oils:			
100 No. 5-6	5.25 - 5.50	5.25 - 5.50	5.25 - 5.50
200 No. 5-6	6.125- 6.75	6.125- 6.75	6.125- 6.75
300 No. 5-6	6.75 - 7.00	6.75 - 7.00	6.75 - 7.00
500 No. 5-6	7.25 - 7.625	7.25 - 7.625	7.25 - 7.625
750 No. 5-6	9.00 - 9.25	9.00 - 9.25	9.00 - 9.25
1200 No. 5-6	9.25 - 9.50	9.25 - 9.50	9.25 - 9.50
2000 No. 5-6	9.75 -10.25	9.75 -10 25	9.75 -10.25

Note: Red oil prices shown above cover oils with green cast; prices for blue cast red oils are slightly lower in some cases.

Tanker Rates

(Approximate tanker freight rates to Continental ports, in shipments per ton of 2240 pounds. British sterling: to U. S. ports, cents per barrel)

	Crude &/or Fuel		Refined Oil &/or Spirits	
Rates—Oct. 12	Last Paid	Owners Ask	Last Paid	Owners Ask
Calif. U.K./Cont.*	20/	20/-21/	17/	18/-19/
Gulf.-U.K./Cont.*	9/9	10/-11/	10/3	11/-11/6
Calif.-N. Atlantic (not E. of N. Y.)	....	†60c	....	†60c
Gulf-N. Atlantic** (not E. of N. Y.):				
Heavy Crude & Fuel	31c	31c	....	....
Light Crude	28c	28c	....	....
Gasoline	....	....	23c	23c
Kerosine	....	....	24c	24c
Light Fuel	....	....	25c	25c

Note: Dirty boat quotations are enlarged to cover, "Fuel and Light Crude" quotations.

*Continental ports in range between Bordeaux and Hamburg, both inclusive.

**Venezcula loading same rate: Tampico 2c to 3c per bbl. additional.

*Nominal.

COMING MEETINGS

(*Continued from page* 9)

annual dinner, New York City, Nov. 12.

Mid-Continent Oil & Gas Association, (Kansas-Oklahoma Division) annual meeting, Tulsa, Okla., Nov. 20.

Independent Petroleum Association of America, annual meeting, Biltmore Hotel, Oklahoma City, Okla., Nov. 30 and Dec. 1.

American Society of Mechanical Engineers, New York City, Nov. 30 to Dec. 4.

Twelfth National Exposition of Power and Mechanical Engineering, Grand Central Palace, New York City, Nov. 30 to Dec. 4.

Mid-Continent Oil & Gas Association, (Texas Division) annual meeting, Houston, Texas, Dec. 4.

First International Consumers Petroleum Exposition, Convention Hall, Detroit, Mich., Dec. 5 to 13.

National Exposition of Chemical Industries, Grand Central Palace, New York City, Dec. 6 to 11.

Nebraska Petroleum Marketers, Hotel Paxton, Omaha, Nebr., Dec. 8, 9 and 10.

Mid-Continent Oil & Gas Association, annual meeting of general board of directors, Tulsa, Okla., Dec. 15.

1937

Northwest Petroleum Association. North Dakota division, Patterson Hotel, Bismarck, Jan. 18, 19.

Northwest Petroleum Association, Minnesota division, West Hotel, Minneapolis, Jan. 21, 22.

Kentucky Petroleum Marketers Association, Brown Hotel, Louisville, Ky., Feb. 8, 9, 10.

Ohio Petroleum Marketers Association. Hotel Deshler-Wallick, Columbus, Ohio, February 23, 24 and 25.

National Petroleum Association, 34th semi-annual meeting, Cleveland Hotel, Cleveland, Ohio, Apr. 15 and 16.

Re-Opens Plant

MINOT, N. D.—The Westland Oil Co. bulk plant and service station at Frazer, Mont., has been re-opened. Emil Droge is in charge.

Texas Operator Fined

TYLER, Texas, Oct. 10.—Fine of $5000 was imposed by federal court on J. I. Staley, East Texas operator, when he entered plea of nolo contendere to charges of having sworn falsely to reports made to the Federal Tender Board, interstate shipping administrative body.

V. H. Smith, an associate of Staley, was sentenced to serve one year and one day and the sentence was suspended. Smith entered the same plea as Staley.

Asphalt Institute Expands

SAN FRANCISCO, Oct. 8.—Expansion of the Asphalt Institute on the Pacific Coast will result from the formation of a technical department, under the direction of J. E. Buchanan, to collect and disseminate data relating to the use of asphalt.

Mr. Buchanan has had nine years experience in technical work for the University of Idaho and the Idaho Bureau of Highways. Since 1927 he has been testing engineer in charge of the materials testing laboratory at Moscow, Idaho, and has taken a special interest in highway and materials engineering.

Americans Can Prospect For Oil In Britain

LONDON, Oct. 3.—An arrangement is announced by the Secretary of the British Department of Mines whereby Americans can participate in oil prospecting and development in the United Kingdom. American oil interests have been pressing for prospecting rights in Britain since Parliament passed the British Petroleum (Production) Act in 1934.

The announcement is that the "discussions which have recently taken place between His Majesty's Government and the United States Government on the subject of reciprocity between Great Britain and the United States of America under the provisions of the United States Mineral Leasing Act and the British Petroleum (Production) Act and Regulations, have reached finality.

"As a result of the exchange of views which has taken place, the United States Government has been informed that the British Petroleum (Production) Act, 1934, and the Petroleum (Production) Regulations, 1935, are so construed and applied as to permit of the participation by American citizens and corporations in oil prospecting and development in Great Britain, and the United States Government has informed H. M. Government that Great Britain is recognized as a reciprocal country under the Mineral Leasing Act, 1920."

Fewer Grade Crossings

WASHINGTON, Oct. 7—The total of 234,231 highway-railroad grade crossings in existence in the U. S. on Jan. 1, 1936, was the smallest number on any similar date in the past 10 years, the Association of American Railroads announced today.

There has been a gradual reduction since Jan. 1, 1930, when there were 242,809 such crossings. Since 1933, 2688 highway-railroad grade crossings have been or will be eliminated in the near future. The Bureau of Public Roads estimates its present grade-crossing elimination program will eliminate a total of 3000 crossings.

State Publishers Map

SOCORRO, N. M., October 3.—The State Bureau of Mines and Mineral Resources of the New Mexico School of Mines, at Socorro, has just issued a revised edition of the "Oil and Gas Map of New Mexico," which is included in Bulletin 9 of the Bureau, "The Oil and Gas Resources of New Mexico," by Dean E. Winchester. The map has been revised by A. Andreas to July 15, 1936.

According to E. H. Wells, Director of the Bureau, the map shows the axes of nearly 200 anticlinal structures, and the location, total depth and results (by symbol) of approximately 1200 wildcat wells. Known oil and gas fields are indicated, and the location of main oil and gas pipe lines, refineries and natural gasoline plants are shown. Areas where carbon dioxide gas occurs are indicated. The map is printed in one color, with a scale of 1 to 1,000,000, or approximately 1 inch to 16 miles.

The price of the new map printed on paper is 75 cents, and $1.25 mounted on cloth.

Eastern Oil Truckers Form Association

PHILADELPHIA, Oct. 5.—Believing that oil truckers must organize for protection of their mutual interests, truck owners operating in the North Atlantic states have formed the Eastern Petroleum Carriers' Association.

This group, operating several hundred transport tank trucks, is headed by Duverney Matlack, of E. Brooke Matlack, Philadelphia, with Clair Leaman, Leaman Transportation Corp., Downington, Pa., as treasurer. Harold S. Shertz is general counsel and headquarters of the association will be in his offices in the Crozer Building, Philadelphia.

The association will co-operate with the Interstate Commerce Commission on safety regulations, tariffs, and other provisions of the Motor Carrier Act. The association will also ask that the Interstate Commerce Commission give a separate classification to oil truckers.

Petroleum carriers, individuals and groups in other sections of the country will be contacted with a view to exchanging views on railroad competition and other common problems of the oil trucker.

Organizers of the association believe that it will be helpful to the oil industry in checking tax-evasion by truckers hauling "bootleg" gasoline.

Besides the Matlack and Leaman companies, others in the group organizing the association are: Petroleum Transport Co., Inc., of York, Pa.; Warren C. Marshall, Upper Darby, Pa.; Pleasantville Investment Co., Newfield, N. J.; Petroleum Transport Corp., of Lancaster, Pa.; Herman Follmer, Milton Pa.; and Garret & Kovack, Scranton, Pa.

Completes 49 Oil Wells

NEW YORK, Sept. 15.—The completion of 49 oil wells during August was reported today by the Sinclair Prairie Oil Co., the principal producing subsidiary of the Consolidated Oil Corp. The initial net production of these wells was reported at 30,312 barrels daily.

Standard-Vac. to Carry More Storage in Japan

NEW YORK—Through an agreement with Rising Sun Petroleum Co. and Mitsui Bussan Kaisha, Standard-Vacuum Oil Co. will erect sufficient additional storage in Japan to maintain a six months' supply of petroleum products on hand above its normal requirements in that country. This is in line with the requirement of the Japanese Government's petroleum control law. Ordinarily foreign companies maintain only two months' supplies in storage.

It is understood that the company and Rising Sun have agreed to provide sites for the erection of storage facilities and that the Mitsui interests will advance an amount for construction of tanks.

Brief Filed in Appeal in Texas Gas Law Case

AUSTIN, Texas, Oct. 10.—Brief has been filed by State Attorney General William McCaw in the U. S. Supreme Court in the appeal from the decision of a three-judge federal court regarding the proration of natural gas in the Panhandle field.

The lower court, in the Consolidated Gas Utilities and Texhoma Natural Gas Co. cases, enjoined the Texas Railroad Commission and other state officials from enforcing ratable taking of gas. The court held that the statute, enacted early in 1935, merely prohibited waste of gas and did not authorize proration.

The state will contend that the proration orders were designed to prevent waste, as their operation would prevent water intrusion, sand channeling and reduction of ultimate recovery of gas from the field.

The case probably will be called for argument during the week of Nov. 9.

Criticize Open Flow Tests

FORT WORTH, Oct. 10.—Open flow methods of testing wells to establish potentials came in for considerable criticism at the fall meeting of the petroleum division, American Institute of Mining and Metallurigcal Engineers, here Oct. 8 and 9. Several speakers said the operators had been subjected to high expense and that the method had promoted great waste of oil and gas.

Papers dealt with engineering education, field production methods and metallurgy. President John M. Lovejoy, of the institute, and Dr. George Otis Smith, former director of the U. S. Geological Survey, were speakers at the luncheon the second day of the meeting.

Proration Meeting Postponed

AUSTIN, Texas, Oct. 10.—Railroad Commission of Texas has postponed its monthly statewide proration hearing from Oct. 14 to Oct. 19.

He makes friends by looking for trouble!

THIS fellow's job is to look for trouble—and he's made a host of friends by doing it well.

For he's the Gulf "Stock Oil Service" man, and he goes to the aid of any jobber or compounder who's up against a particularly baffling problem. He's got what it takes to help you straighten out trouble in jig time: a wealth of special knowledge and practical experience.

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Gulf puts at your command, too, a line of Mid-Continent and Coastal Oils unsurpassed in quality. The huge strides taken by Gulf refining processes in the last few years have admittedly outstripped the field. Gulf can follow specifications with the rigid accuracy of a chemist compounding a prescription, and tank car after tank car tests out exactly as you ordered.

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COPPER Pipe JOINT

From Tank to Pumps, for Air Lines, for Water and Oil Lines specify Hays Double Seals and copper pipe. A patented 2-faced flare (45° plus 90°) fits over two machined seats to make a copper pipe joint that will hold till "Hell freezes over". It's approved by Underwriters' Laboratories.

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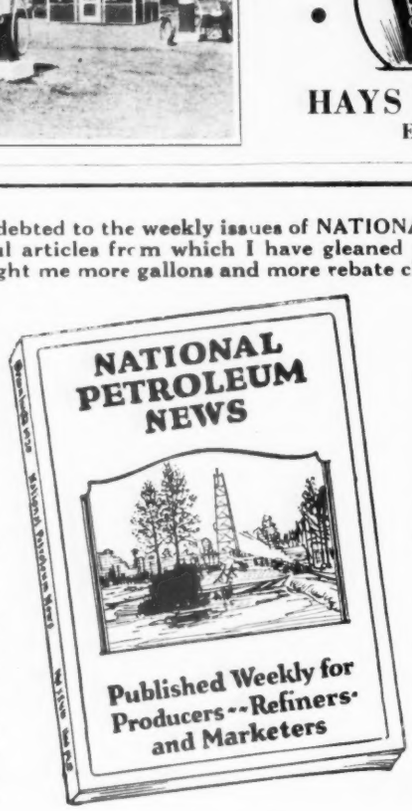

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Cal. Refiners Aiding To Stop Pollution

LOS ANGELES, Oct. 6.—Petroleum refiners of California were given credit for full co-operation with federal and state officials in preventing oil pollution of the seashore, at the national conference of the American Shore and Beach Preservation Association.

One major company was reported to have spent $245,850 in equipment at two of its locations in Los Angeles for separators, or waste water tanks, to receive pumpings of waste from ships and submarine pipe lines.

In a paper dealing particularly with conditions on the Pacific Coast, twelve sources of pollution were named: pollution from general cargo vessels; operation of tank ships carrying petroleum products; marine disasters; oil distributing stations on shore by way of submarine and surface pipe lines; oil refinery waste discharged into the ocean; oil field waste from flooded sumps, pipe lines and tank farms; gas manufacture; railroads using oil fuel; port pollution from dry docks; ship repair plants and industries using oil fuel; oil discharged into the sea by city sewers; and natural oil seepages from submarine oil springs.

Corrective measures suggested included: legislation requiring all oil burning or oil carrying ships to present evidence that bilge, tank and ballast pumpings had been discharged in the harbor according to established regulations; international legislation requiring every oil burning or oil carrying ship to be equipped with proper settling chambers or other suitable apparatus to separate oil from waste water before discharge into the ocean; control of city sewage discharged into the ocean; gradual elimination of drilling for oil on or near the coast line; and regulation of oil loading and unloading apparatus at marine terminals.

Canadian Refinery Executive Dies

PETROLIA, Can., Oct. 12.—Cloyd A. Hale, superintendent of the local refinery of the Canadian Oil Companies Ltd. since 1917, died at his home here recently following a heart attack. He was 44 years old.

The position left vacant by Mr. Hale's death is being taken by E. A. Smith pending a definite appointment. Smith has been chief chemist of the plant for the past 17 years, and was assistant superintendent at the time of Mr. Hale's death.

Mr. Hale was born at Arcadia, Ohio, near Findlay. He entered the employment of the National Refining Co. as a shipping clerk and in 1913 was transferred to Petrolia. He is survived by his wife, two daughters, and a sister.

NEW BOOKS

Lubrication Guide Rewritten

The fourth edition of the Service Man's Guide to Automotive Lubrication is now off the press. In view of changes in oil refining, grease manufacture, and automotive construction, the guide has been completely rewritten. Many new illustrations have been added and there are well over 100 in its 130 pages.

The book is written in non-technical language so as to explain simply every unit on the automobile and analyze these units from the standpoint of their lubrication.

In the early chapters are discussions of the fundamentals of friction, what it is and how lubricants reduce it; of lubrication, the properties of lubricants, and their action in common type bearings; and the general properties of oils, their extraction, and physical tests. These first five chapters are followed by chapters on the automobile engine, lubrication systems in the engine equipment, and behavior of oil in engines. The various types of transmissions, rear axle systems and differentials, clutches, universal joints, wheel bearings, springs, shackles and shock absorbers, steering gears in common use, are discussed in the latter chapters, as well as other useful information.

The book is not only of interest to the ordinary reader who is interested in any form of automobile lubrication, but it can be and is used as a textbook of instruction for classes of service station operators. The new edition is available in the Book Department of NATIONAL PETROLEUM NEWS. Its price is $2.

Accessory Sales Made Special Department

CLEVELAND, Oct. 12.—Due to increased activity in the sale and promotion of automotive accessories, Standard Oil Co. of Ohio has separated the work in the sales and merchandising of these items.

In the past all accessory items have been handled along with tire and battery sales, but increased sales have made it advisable to separate all other products from tires and batteries.

As a rsult of this reorganization, a new job has been created—manager of accessory sales. The man in this position is W. W. Shaw, formerly chief clerk in the company's merchandising department. He has been with Soh'o since 1928, starting as a service station salesman in Columbus.

Replacing Mr. Shaw as chief clerk in the merchandising department is L J. Farley, formerly of the sales accounting office.

SINCLAIR-"RED" GRANGE FOOTBALL CONTEST

Scoring for Sinclair Distributors, Jobbers and Dealers

Every week, hundreds of thousands of gridiron fans are entering the Sinclair-"Red" Grange Football Contest, bringing wide opportunity for increased profit to Sinclair distributors, jobbers and dealers.

Why don't you let this contest score new profit for you, too? There is still time. 'Phone the local Sinclair office or write to Sinclair Refining Co. (Inc.), 630 Fifth Avenue, New York, N. Y.

A NEW CAR

AND 120 OTHER PRIZES GIVEN AWAY WEEKLY

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Standard Oil Company
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ESSOLENE—for Regular Motor Fuel
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THE SIGN OF HAPPY MOTORING

For the past several years, motorists in the East and in the South have been familiar with "the ESSO sign". This big red, white and blue ESSO oval has marked the source of fine products and courteous service at more than 30,000 ESSO STATIONS and ESSO DEALERS from Maine to Louisiana.

ESSO INC.

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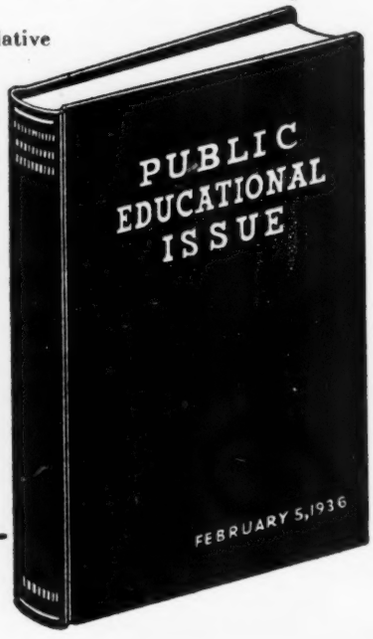

NEW PATENTS

Compiled by R. E. Burnham, patent and trade-mark attorney, 511 Eleventh Street, N. W., Washington, D. C., from whom copies may be obtained at the rate of 25c each. State number of patent and name of inventor when ordering

September 22, 1936

REFINING

Entrainment separator for fractionating towers—John H. Puls, Los Angeles, Calif., assignor to Texas Co. Filed June 30, 1932. No. 2,055,048.

Production of valuable oils from asphaltic and resinous hydrocarbon mixtures—Mathias Pier and August Eisenhut, Germany, assignors to I. G. Farbenindustrie. Filed June 27, 1934. No. 2,055,135.

Process of producing lubricating oil—Richard S. Vose, Ridley Park, Pa., assignor to Sun Oil Co. Filed Aug. 21, 1933. No. 2,055,210.

Expander for cracking hydrocarbon oils—Ernest W. Zublin, Fort Worth, Tex., assignor to Texas Pacific Coal & Oil Co. Filed Sept. 19, 1933. No. 2,055,212.

Fractionation column equipment—Elliott B. McConnell, Cleveland Heights, Ohio. Filed Dec. 10, 1934. No. 2,055,301.

Conversion of hydrocarbons—Robert F. Ruthruff, Whiting, Ind., assignor to Standard Oil Co. (Ind.). Filed Aug. 31, 1934. No. 2,055,313.

Refining mineral oil with solvents—Richard J. Dearborn, Summit, N. J., assignor to Texas Co. Filed Oct. 24, 1932. No. 2,055,428.

The following to Universal Oil Products Co. as assignee of the inventors:

Conversion of hydrocarbon oils—Jacque C. Morrell, Chicago, Ill. Filed Apr. 23, 1932. No. 2,055,015.

Treatment of hydrocarbon oils—Roland B. Day Chicago, Ill. Filed Oct. 3, 1932. No. 2,055,027.

Conversion of higher boiling hydrocarbons to lower boiling hydrocarbons—Victor Henry, London, England. Filed May 7, 1930. Nos. 2,055,028 and 2,055,029.

Treatment of hydrocarbon oil—George W. Miller, Jackson Heights, N. Y. Filed July 29, 1932. No. 2,055,085.

The following to Shell Development Co. as assignee of the inventors:

Method of treating hydrocarbons—Boris Malishev, Berkeley, Calif. Filed Dec. 2, 1933. No. 2,055,415.

Method of refining mineral oils—Franz R. Moser, Amsterdam, Netherlands. Filed Oct. 8, 1934. No. 2,055,416.

Process of treating mineral oil distillation—Johan F. M. Caudri, Amsterdam, Netherlands. Filed Sept. 27, 1933. No. 2,055,425.

Process for making asphalt—Adolph Gutzwiller, Amsterdam, Netherlands. Filed Aug. 4, 1931. No. 2,055,459.

MISCELLANEOUS

Manufacture of lubricants—Roy F. Nelson, Nederland, Tex., assignor to Texas Co. Filed Sept. 28, 1932. No. 2,055,043.

Recovery of organic acids from oxidation products of hydrocarbons—Hans Beller and Max Schellmann, Germany, assignors to I. G. Farbenindustrie. Filed Dec. 8, 1934. No. 2,055,095.

The following to Shell Development Co. as assignee of the inventors:

Process for manufacture of alcohols—Adrianus J. Van Peski and Siegfried L. Langedijk, Amsterdam, Netherlands. Filed Dec. 31, 1934. No. 2,055,269.

Process for lowering the pour point of mineral oils—Franz R. Moser, Amsterdam, Netherlands. Filed Aug. 30, 1935. No. 2,055,417.

Recovery of sulphuric acid—Ludwig Rosenstein, San Francisco, Calif. Filed Oct. 14, 1935. No. 2,055,419.

Hydrogenation of unsaturated alcohols—Herbert P. A. Groll and James Burgin, Oakland, Calif. Filed Mar. 25, 1935. No. 2,055,437.

Process for manufacturing motor fuel—Jack F. M. Taylor, San Francisco, Bernard S. Greensfelder, Wilmington, and Russell N. Shiras, Long Beach, Calif. Filed Apr. 22, 1922. No. 2,055,455.

Process and product relating to olefin derivatives—Egon Eichwald, Amsterdam, Netherlands. Filed Sept. 29, 1932. No. 2,055,456.

OIL TRADEMARKS
For Copyright

The following are trademark applications pertinent to our field pending in the United States Patent office which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade-Mark Company, Munsey Building, Washington, D. C., trademark specialists.

As an additional service feature to its readers, this journal gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering. You may communicate with the Editor of this Department, or send your inquiry direct to the National Trade-Mark Company, stating that you are a reader of this journal.

Pub. Sept. 22, 1936

SUPER KILL, Ser. No. 367,451. Taylor Chemical Co., Inc., Aberdeen, N. C. Filed July 18, 1935.

For Insecticides, Fungicides, and Household Disinfectants.

FRANKLIN'S, Ser. No. 380,049. Joseph R. Franklin, doing business as Hammond Exterminating Company, Hammond, Ind. Filed June 22, 1936.

For Rodent Eradicator, Insecticides, and Disinfectants.

CEE-PEE, Ser. No. 380,911. Milton Hanlon, doing business as Chemical Products Company, Kansas City, Mo. Filed July 11, 1936.

For Roach Powder, Flea and Lice Powder, a Preparation for Exterminating Rodents, Fly Repellent, Poultry Tonic, Poultry Spray, and Insecticides.

STOP-RITE, Ser. No. 380,035. Chicago Hydraulic Oil Co., Chicago, Ill. Filed June 22, 1936.

For Shock Absorber Fluid.

STRATE-FLO. Ser. No. 380,848 Scovill Manufacturing Company, Waterbury, Conn. Filed July 9, 1936.

For Service Station Equipment—Namely, Hand Operated Valve Controlled Nozzles.

CAR-LIFE, Ser. No. 380,554. Charles A. Compton, Menlo Park, Calif.

For Oil Filters for Use as Accessories to Internal Combustion Engines, Especially Those Used in Automobiles.

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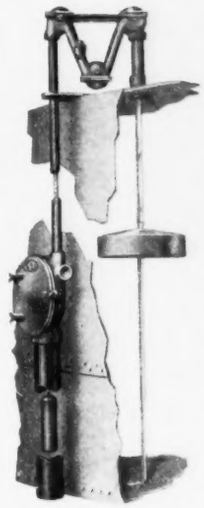

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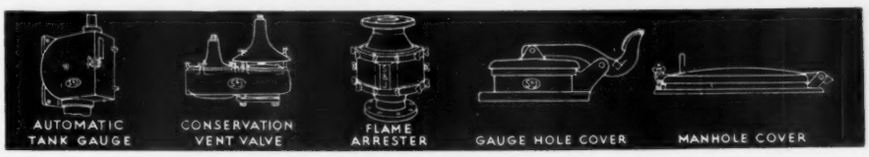

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TRANSACTIONS IN OIL STOCKS ON NEW YORK STOCK EXCHANGE

1935 High	1935 Low	1936 High	1936 Low	Listed Shares	Par Value	Company	Current Dividend	Last Div. Paid	Transactions Week Ended Oct. 10, 1936 Sales Shares	High	Low	Last	Week's Change
80	48½	125½	75	788,675	N.P.	Amerada Corp.	50cQ	July 31, 36	2,700	106½	100	101½	— 2
44	29¾	51⅛	36	2,290,412	$25	Associated Oil Co.	25c	May 1, 36	30	41	41	41	0
28	20⅛	35⅛	26⅝	2,664,901	25	Atlantic Refining Co.	25cQ	Sept. 15, 36	19,900	29	28	28⅝	+ ⅛
14¾	5⅞	20	14⅛	2,131,090	5	Barnsdall Corp.	20c	Aug. 1, 36	96,100	19¾	18⅛	19¼	+ 1⅛
9⅞	6¾	28¾	8¼	1,444,970	N.P.	Colonial Beacon Oil Co.	....	....	420	28½	27¾	28½	+ ½
12¼	6½	15¼	11½	13,983,287	N.P.	Consolidated Oil Corp.	15c	Aug. 15, 36	74,500	14⅜	13¾	14⅜	+ ⅜
112½	108½	106⅛	101	132,771	$100	do pfd	$1.25Q	Sept. 1, 36	....	....	....	....	....
35	15⅛	38½	28⅛	4,682,662	5	Continental Oil Co.	25c	July 31, 36	33,800	35	33¾	35	+ 1
22½	11¾	34¾	21¼	413,333	$10	General Asphalt Co.	....	....	11,100	26⅜	24⅞	25⅜	0
7	1⅛	12¼	6⅜	1,098,618	25	Houston Oil Co. v.t.c.	....	....	67,600	10½	9½	10⅜	+ 5
5¼	2⅛	13⅝	4⅛	1,207,132	10	Indian Refining Co.	....	....	6,500	13⅝	11⅞	13	+ 1½
1⅞	⅜	....	....	1,309,060	N.P.	Louisiana Oil Ref'g. Corp.	....	....	....	....	....	....	....
15	4½	51½	13	40,000	$100	do pfd	....	....	990	39¾	36½	37	— 1
3	1	6¾	2¼	330,000	N.P.	Maracaibo Oil Exploration Co.	....	....	6,300	4¼	3½	3⅞	+ ⅜
20½	9½	23¾	17¼	1,843,872	$10	Mid-Continent Pet. Corp.	40c	June 1, 36	24,200	27	25⅜	27	+ 1¼
17¾	10⅜	26¼	16¾	1,399,345	N.P.	Mission Corp.	....	....	3,600	20¾	19⅜	20	0
14¼	9¼	17½	12¼	6,563,377	N.P.	Ohio Oil Co.	25c	June 15, 36	69,900	14	12⅞	13⅜	+ 1
21	10⅜	20⅝	12¼	4,699,885	$5	Pan Amer. Pet. & Transp. Co.	....	....	200	12¾	12⅜	12¾	+ ¼
1⅞	½	4¼	1⅜	199,370	N.P.	Panhandle Prod. & Ref'g. Co.	....	....	1,400	2¾	2½	2⅝	+ ⅛
20	6½	74½	18½	17,994	$100	do pfd	....	....	560	62½	58	60½	+ 3½
14	7⅝	18	12⅜	2,153,444	5	Petroleum Corp. of America	25c	Sept. 30, 36	10,400	15	14¼	15	+ ¾
40	13¾	49⅜	38⅛	4,152,836	N.P.	Phillips Petroleum Co.	25cQC	Sept. 1, 36	45,400	45½	44⅛	45¼	+ 1⅜
1¼	⅛	2¼	⅞	1,184,817	$25	Pierce Oil Corp.	....	....	....	....	....	....	....
8	2¾	17	8	150,000	100	do ‡pfd	....	....	3,200	13	11¾	12	+ ⅞
1¾	⅝	2½	1⅛	2,500,000	N.P.	Pierce Petroleum Corp.	....	....	15,600	2⅜	2⅛	2¼	+ ⅛
13	6½	17	11⅞	1,050,000	$5	Plymouth Oil	25cQ	Sept. 30, 36	14,100	16¾	16	16½	+ ½
17	5⅞	24⅞	16¼	3,038,370	N.P.	Pure Oil Co.	....	....	80,000	19⅛	17⅝	18⅜	+ ¾
103	34¾	118	91¼	167,640	100	do 6% pfd	$1.50	Oct. 1, 36	900	96	95	96	+ 1
119⅞	49⅝	133½	103	130,000	100	do 8% pfd	$2.00	Oct. 1, 36	100	109¾	109	109	0
48½	29½	57⅝	48⅜	425,342	a	Royal Dutch Co. (N. Y. shares)	$1.70	Aug. 1, 35	....	....	....	....	....
36⅞	20¾	42½	30½	1,244,383	N.P.	Seaboard Oil of Del.	25c	Sept. 15, 36	19,400	35¼	32⅝	34	+ 1½
39	20⅜	48	38½	56.148	£2	Shell Transport & Trading Co.	$1.237	July 24, 35	....	....	....	....	....
16½	5½	21½	14⅜	13,070,625	N.P.	Shell Union Oil Corp.	....	....	21,500	24¾	23¼	23¾	— 1
111	63⅛	124	110½	400,000	$100	do pfd. w.w.	$1.37½	Oct. 1, 36	3,600	123	121¼	122⅞	+ ⅜
18¾	4¾	6¾	3½	461,000	10	Simms Petroleum Co.	**$1.00	July 31, 36	500	4¼	4¼	4¼	0
20½	6½	31½	19½	1,008,549	15	Skelly Oil Co.	....	....	14,300	31¼	29½	31¼	+ 2
116¼	60	132	116	120,000	100	do pfd.	$1.50	Aug. 1, 36	500	117¾	117½	117⅝	— ⅜
15¾	10⅝	17	12½	31,151,075	15	Socony Vacuum Oil Co.	25c	Sept. 15, 36	291,900	16⅝	14	16⅝	+ 2½
116	111	113½	109⅜	764,925	100	S. O. Export Corp. pfd	$2.50 S.A.	June 30, 36	....	....	....	....	....
41⅛	27¾	47⅝	35	13,014,754	N.P.	S. O. California	30c	Sept. 15, 36	45,400	39½	36¼	39¼	+ 3
33⅜	23	40⅛	32¾	15,215,677	$25	S. O. Indiana	50c	Sept. 15, 36	28,600	39⅜	38	39¼	+ 1
32	20	30¾	25	145.441	10	S. O. Kansas	....	....	1,400	*30¾	27¾	30¾	+ 3
52⅜	35¾	70	51⅛	26,200,825	25	S. O. New Jersey	75c	June 15, 36	64,600	65¼	62⅝	65¼	+ 3¼
77	60½	91	72	2,019,093	N.P.	Sun Oil Co.	25cQ	Sept. 15, 36	1,400	81¼	76¾	81	+ 4
121	115½	124	118	100,000	$100	do pfd	$1.50Q	Sept. 1, 36	20	123	123	123	+ ⅛
3½	1⅝	6¾	3	966,979	$1	Superior Oil Corp. (Del.)	....	....	32,700	4¾	4	4½	+ ½
30¼	16½	40	28⅞	9,851,236	$25	The Texas Corp.	50c	Oct. 1, 36	92,600	43⅜	39½	42¼	+ 3¼
9¼	3¼	15¼	7½	930,570	10	Texas Pacific Coal & Oil Co.	25c	Aug. 1, 36	55,300	14⅛	12⅝	13⅜	+ ½
15⅞	7⅝	19½	14¾	5,998,919	N.P.	Tide Water Associated Oil Co.	15c	Sept. 1, 36	29,600	*19½	18¾	19	— ¾
104½	84	106½	100⅝	695,503	$100	do pfd. C. T. V.	$1.50	Oct. 1, 36	600	104⅞	103⅞	104¼	0
48	26¾	60	51	2,191,823	N.P.	Tide Water Oil Co.	45c	Aug. 31, 36	70	50	48	50	0
24	14¾	28½	20¾	4,386,070	25	Union Oil of California	25cQ	Aug. 19, 36	15,900	23⅞	21⅞	23½	+ 1⅝
26½	20¼	31⅝	22⅝	1,200,000	N.P.	Union Tank Car Co.	30cQ	Sept. 1, 36	1,700	30	28¾	29¾	+ ¾
1⅝	⅝	2⅞	⅝	759,538	N.P.	Warner Quinlan Co.	....	....	3,000	1½	1¼	1¼	0
3⅛	1	5¼	2¾	431,443	$5	H. F. Wilcox Oil & Gas Co.	....	....	6,000	3⅝	3	3½	+ ⅛

*New high. †New low. Ex-div. **Dividends of liquidation. ‡Stock dividend. a Par 33 1/3 florins.
C Paid 25c extra Sept. 1, 36.

STANDARD OIL STOCKS ON NEW YORK CURB MARKET

1935 High	1935 Low	1936 High	1936 Low	Listed Shares	Par Value	Company	Current Dividend	Last Div. Paid	Transactions Week Ended Oct. 10, 1936 Sales Shares	High	Low	Last	Week's Change
16	6	18	12¼	36,000	$25	Borne Scrymser Co.	50c	Apr. 15, 36	....	....	....	....	....
42½	30½	50	39¾	200,000	50	Buckeye Pipe Line Co.	75cQ	Sept. 15, 36	300	45½	44¼	45	+ ¾
157	115	124¾	108⅞	120,000	25	Chesebrough Mfg. Co.	$1.50	Sept. 30, 36	150	119	118	118	— 1½
23¾	10	34¾	19⅞	6,974,356	$5	Creole Petroleum Co.	25c	July 15, 36	39,400	29⅜	27½	29¼	+ 1⅝
38	33¼	46	39	50,000	$50	Eureka Pipe Line Co.	$1Q	Aug. 1, 36	50	*46	46	46	+ 2¼
64	44	76½	57	8,985,662	N.P.	Humble Oil & Refg. Co.	50cQ	Oct. 1, 36	5,100	67	63½	67	+ 3½
22½	15⅜	24½	20	26,965,078	N.P.	Imperial Oil Ltd.	°25cS.	June 1, 36	17,400	22½	21⅜	22½	+ 1⅜
22½	15⅞	24⅜	20⅛	.....	N.P.	do registered	25cQ	June 1, 36	1,200	22½	21½	22½	+ 1⅜
6⅛	3⅝	9¾	5½	300,000	$10	Indiana Pipe Line Co.	20c**	May 15, 36	300	*9¾	9⅝	9⅝	+ ⅛
39¾	28	39⅜	32⅞	14,324,088	N.P.	International Pet. Co.	°75cS.	June 1, 36	15,700	37	35¼	36⅜	+ ⅛
....	....	36½	33⅜	.....	.....	do registered	....	....	200	36	36	36	+ 1½
10⅝	6¾	15¾	9¼	509,000	$12.50	National Transit Co.	40c	June 15, 36	700	12	11½	11⅞	+ ⅛
4⅞	3	6¼	4¼	100,000	5	New York Transit Co.	15c S.A.	Apr. 15, 36	100	5⅛	5⅛	5⅛	0
8	5¼	9¼	4⅞	120,000	10	Northern Pipe Line Co.	15c	July 1, 36	500	9¼	9	9	— ⅛
107¼	90¾	110⅜	104⅛	562,122	100	Ohio Oil Co. pfd.	$1.50Q	Sept. 15, 36	300	109	109	109	0
11	5½	8	5½	400,000	25	Penn Mex. Fuel Co.	....	Dec. 22, 33	....	....	....	....	....
34½	21⅝	40⅞	32½	1,142,671	25	South Penn Oil Co.	60c	Sept. 30, 36	1,200	40¾	40	40½	+ ½
5	3⅞	7⅞	3⅞	100,000	10	Southern Pipe Line Co.	10c	Sept. 1, 36	700	4¾	4¼	4¾	+ ½
56	45¼	60	48	35,000	50	South West Pa. Pipe Lines	$1.00	Oct. 1, 36	....	....	....	....	....
24	18	23⅜	17⅛	2,604,801	10	S. O. Kentucky	35c	Sept. 15, 36	10,200	19½	18⅝	19½	+ ⅞
12	7¾	14⅝	11	182,803	25	S. O. Nebraska	....	June 20, 34	800	12½	12	12⅜	+ ⅜
23⅝	11½	36¼	21¾	753,740	25	S. O. Ohio	25c	July 15, 36	3,100	33¾	31½	33⅜	+ 2⅛
99½	89	107½	97	120,000	100	do 5% pfd.	$1.25Q	July 15, 36	150	105½	105	105½	+ 1¼
6	2¼	10	5⅜	34,158	25	Swan Finch Oil Corp.	87½c	Mar. 16, 36	200	8¼	8¼	8¼	— ⅛

*New high. †New low. °Imperial Oil Spec. 37½c June 1, 36. International Pet. Spec. 50c June 1, 36.
x Ex dividend. **15c regular; 5c extra.

Will Discuss New Law

BOSTON, Oct. 10.—Discussion of the Robinson-Patman anti-price discrimination law will be the chief feature of the monthly business meeting of the Oil Men's Association of New England, to be held here Oct. 22 according to George E. Young, secretary pro tem. The law will be explained by Nathan Isaac, professor of business law at the Harvard Business School.

Other subjects on the program will be a report by the legislative committee, report on the summer golf tournament and the membership drive.

NEW YORK CURB BONDS

Week Ending Oct. 10

	High	Low	Last	Change
Cities Serv. 5s '66	79½	78	79	+1
Cities Serv. 5s '50	79⅝	77⅛	78⅞	+1¼
Cities Serv. G. 5⅛s '42	103½	102¼	102½	+ ⅛
Empire O & R 5⅛s '42	87½	86⅛	87	+ ⅝

OIL AND ROYALTY STOCKS ON NEW YORK CURB

1935 High	1935 Low	1936 High	1936 Low	Par Value	Company	Transactions Week Ended Oct. 10, 1936 Sales Shares	High	Low	Last	Week's Change
1 1/16	3/4	1 7/8	1/16	N.P.	American Maracaibo	5,600	1	1 1/16	1 1/16	0
3 1/8	5/8	7 5/8	3 1/4	N.P.	Arkansas Nat. Gas	9,600	6 1/8	5 1/4	5 3/4	+ 5/8
3 3/4	5/8	7 3/4	3 1/4	N.P.	do A	33,600	6 1/8	5 1/4	6	+ 1
7 1/2	2 1/4	10 1/4	7 1/8	$10	do pfd	9,700	*10 1/4	9 3/8	9 7/8	+ 3/8
16 3/4	14 1/2	27 1/4	16 1/2	N.P.	British Amer. Oil coup.	200	23 3/8	23 3/8	23 3/8	+ 3/4
....	....	26 1/4	21 3/8	N.P.	do registered	200	23 1/2	23 1/2	23 1/2	+ 1/2
4 1/4	1 5/8	4 7/8	2	$1/4	Carib Syndicate	48,800	2 7/8	2 1/4	2 1/4	0
3 1/4	3/4	7 3/8	3	N.P.	Cities Service	90,100	4 1/2	4	4 1/2	+ 5/8
47 1/4	6 1/2	66	41 1/2	$100	do pfd	5,100	58	53 3/4	57	+ 3 3/8
4 3/8	5/8	6 1/2	3 3/4	10	do pfd. B	100	4 7/8	4 7/8	4 7/8	— 1/8
43	6	63	41	100	do pfd. BB	10	50	50	50	0
2 1/8	1/2	4	5/8	N.P.	Colon Oil Corp.	....	....	....	....	....
1 1/2	1/8	5 1/2	3/4	N.P.	Columbia Oil & Gas vtc.	10,500	4 1/4	3 7/8	4 1/8	0
3	1	5	2	$1	Consolidated Royalty	100	2 1/8	2 1/8	2 1/8	0
1 1/2	1/4	4 1/8	1 1/2	N.P.	Cosden Oil	13,900	2 3/4	2 1/4	2 1/2	+ 1/8
6 1/4	3/4	17	6 1/2	$100	do pfd	1,800	15 1/2	13	15	+ 1 1/2
2 1/8	5/8	2 3/4	1 3/4	N.P.	Crown Central Pet.	6,700	2	1 7/8	1 7/8	— 1/4
8 7/8	4	13 1/8	9	N.P.	Darby Petroleum	2,400	*13 1/8	12 3/8	12 3/4	0
2	3/4	6 3/4	1 7/8	N.P.	Derby Oil & Refg.	16,000	*6 3/4	4 1/4	6 1/8	+ 2
20	20	79 3/4	25 1/2	N.P.	do pfd	550	*79 3/4	73 1/4	79 1/2	+ 6 1/2
74 3/4	50 1/4	104 3/4	72	$25	Gulf Oil Corp.	8,900	101 3/4	99	101	+ 1 1/2
4 1/4	1 3/8	6 1/4	2 5/8	N.P.	Indian Ter. Illg. Oil A	1,500	3 1/8	3	3 1/8	+ 3/8
4 1/4	1 1/8	6 1/2	3	N.P.	do B	1,100	3 1/8	3	3 1/8	+ 1/8
3	1 7/8	5 5/8	2 5/8	N.P.	Kirby Petroleum	1,800	4 1/2	4	4 1/2	+ 3/8
3/4	1/4	2	1/2	$25	Leonard Oil Dev.	13,400	1 1/8	7/8	1	— 1/8
8 1/4	3 1/2	15 1/2	7 3/8	N.P.	Lion Oil Refg.	2,800	14 1/4	13 3/4	13 7/8	— 3/8
10 7/8	4 1/2	14 1/4	9 7/8	N.P.	Lone Star Gas	13,100	14 1/4	13 3/4	13 3/4	— 3/8
19	4	22 1/4	13 1/2	N.P.	Margay Oil Co.	....	....	....	....	....
2 3/8	7/8	4 1/8	1 1/2	N.P.	Mexico-Ohio Oil	200	2	2	2	+ 1/4
3 3/8	1 7/8	4 3/4	1 7/8	N.P.	Michigan Gas & Oil	700	3 1/4	2 7/8	3	— 1/8
3 7/8	7/8	6	3	N.P.	Mid. States Pet. A vtc.	5,100	4 1/2	4 1/8	4 1/2	+ 3/8
1/8	1/4	2 5/8	1/8	N.P.	do B vtc.	2,700	1 1/4	1	1 1/8	+ 1/8
1/2	1/4	1/8	1/4	$1	Mountain & Gulf	....	....	....	....	....
5 3/4	4 1/8	8 3/8	5	10	Mountain Producers	4,900	5 1/2	5 1/4	5 3/8	0
20	11 3/4	23	17 3/4	N.P.	National Fuel Gas	4,400	20 3/8	19 3/4	20 3/8	+ 3/4
3 1/4	2	4 1/2	2 7/8	$5	New Bradford Oil	2,500	3 7/8	3 3/8	3 1/2	— 3/8
4	2	8 3/8	3 3/8	N.P.	North Central Texas	900	6	5 1/8	6	+ 3/4
1/8	1/8	1/8	1/8	N.P.	North European	800	1/8	1/8	1/8	0
12 3/4	9 3/8	15 1/4	13 1/2	N.P.	Oil Stocks Ltd. A	100	14 1/8	14 1/8	14 1/8	+ 1/8
4 3/8	1 1/4	6 5/8	3 1/4	N.P.	Pantepec of Venezuela	82,000	6 1/8	5 5/8	6	+ 1/8
3/8	1/8	1	1/16	N.P.	Producers Royalty	3,700	1/8	1/16	1/16	0
3 3/4	1/2	15 1/8	3	N.P.	Red Bank Oil	3,400	12 1/4	10 3/8	11 1/4	+ 3/4
1/2	1/32	1 1/2	1/16	N.P.	Reiter-Foster Oil	1,300	5/8	1/16	5/8	0
2 7/8	1/2	2 3/4	1/4	$25	Richfield Oil pfd	800	1	3/4	1	+ 1/4
5	1 1/2	19 1/4	4 1/2	$1	Root Petroleum	5,900	15 7/8	14 1/2	15 1/2	+ 1/2
15 1/8	8	23	14 1/2	20	do conv. pr. pfd	100	19 1/2	19 1/2	19 1/2	0
....	....	39	26 3/4	$10	Royalty Corp. pfd.	....	....	....	....	....
2 1/2	5/8	4 3/4	1 7/8	N.P.	Ryan Consolidated	1,900	3 3/8	3	3 3/8	+ 1/4
1	1/8	2 1/8	1/2	$10	Salt Creek Consolidated	....	....	....	....	....
7 1/2	5 1/2	10	5 3/4	10	Salt Creek Prod.	10,900	6 1/2	5 7/8	6 1/2	+ 1/2
6 7/8	4 3/4	11 1/4	6 1/4	N.P.	Southland Royalty	600	8 1/4	7 3/4	7 3/4	— 5/8
2 7/8	7/8	5	2 5/8	$5	Sunray Oil	3,400	3 1/2	3 1/4	3 1/4	— 1/4
....	....	49	47 1/2	....	do pfd	....	....	....	....	....
4	2	6	4 1/4	$1	Swiss Oil Corp.	8,200	5 5/8	5 1/4	5 3/8	— 3/8
6 1/2	5	9 3/4	4 1/2	N.P.	Texon Oil & Land	1,800	5 5/8	5 1/2	5 1/2	0
....	....	7	2 3/8	....	Venezuela Mex.	3,300	*7	3 3/4	7	+ 3 1/2
2 1/4	1/2	3 1/2	1 1/4	$1	Venezuela Petroleum	7,600	1 5/8	1 3/8	1 1/2	+ 1/4
6 1/8	3 1/2	11	5 5/8	$1	Woodley Petroleum	1,300	8 1/2	8 1/2	8 1/2	0

*New high. †New low.

OIL DIVIDENDS

Dividends Waiting Payment

Company	Amount	Record	Payable
Amerada Corp. q.	50c	Oct. 15	Oct. 31
Atlantic Refg. 4% pfd. q.	1.00	Oct. 5	Nov. 2
Barnsdall Oil Co. q.	20c	Oct. 10	Nov. 2
Borne Scrymser spec.**	75c	Sept. 25	Oct. 15
Consolidated Oil Corp. q.	15c	Oct. 15	Nov. 16
do extra	25c	Oct. 15	Nov. 16
Continental Oil Co.	25c	Oct. 5	Oct. 31
do extra	25c	Oct. 5	Oct. 31
Indiana Pipeline	20c	Oct. 23	Nov. 14
do extra	20c	Oct. 23	Nov. 14
Lion Oil Refg. resumed	50c	Sept. 30	Oct. 15
McColl Frontenac Oil pfd. q.	$1.50	Sept. 30	Oct. 15
Skelly Oil 6% pfd.	$6.00	Oct. 1	Nov. 2
Stand. of Ohio q.	25c	Sept. 30	Oct. 15
do pfd. q.	$1.25	Sept. 30	Oct. 15

**Paid 50c Apr. 15, 36.

NEW YORK BONDS

Week Ended Oct. 10

	High	Low	Last	Change
Atlantic Refg. deb. 5s	103 1/8	103 1/8	103 1/8	— 1/8
Houston Oil 5 1/2s '40	102 1/8	101 1/2	102	— 1/8
Pan Amer. Pet. of Calif. 6s	37	37	37	0
do 6s ctfs	37	35 1/4	36 3/4	+ 1/4
Pure Oil 4 1/4s '50 w.w.	117 1/2	114 3/4	116 1/8	+1 3/8
Pure Oil 4 1/4s '50 x.w.	104 1/4	104 1/4	104 1/4	— 1/4
Richfield Oil of Calif. 6s	42	40 1/4	41 1/2	+ 1/2
do 6s ctfs	42	39 5/8	41 1/2	+1
Shell Union Oil 3 1/2s '51	99	97 7/8	99	+1 1/4
Skelly Oil 4s '51	101	100 3/8	100 3/4	+ 3/8
Socony-Vacuum 3 1/2s '50	105 3/8	105	105	0
S. O. N. J. 3s '61	100 1/2	99 7/8	100 1/8	0
Union Oil of Calif. 6s A	121 1/4	121 1/4	121 1/4	+ 1/4
do 4s '47	116 1/2	115	116 1/2	+2 1/2
Warner-Quinlan 6s '39	43	36 1/4	43	+6 1/4

PITTSBURGH STOCK EXCHANGE

Transactions Week Ended Oct. 9, 1936

	Sales	High	Low	Last	Change Over Week
Ark. Nat. Gas	200	5 3/4	5 1/4	5 5/8	+ 1/4
do pfd	669	10	9 1/8	10	+ 3/4
†Cities Serv	752	4 1/4	3 3/4	4 1/4	+ 5/8
Col. Gas & Elec.	1,107	21 1/8	19 1/2	20 7/8	+1
†Col. Oil & Gaso.	190	4 1/8	3 3/4	4	0
Devonian Oil	438	18 1/2	18 1/8	18 1/8	0
Lone Star Gas	5,264	14 1/8	13 3/4	13 7/8	0
Mountain Fuel Supply	3,561	6 1/2	6 1/4	6 1/2	+ 1/8
Phoenix Oil	4,700	.05	.03	.05	+ .01
do pfd	2,660	.04	.04	.04	0
Plymouth Oil	195	16 1/2	16	16 1/2	+ 1/2
Shamrock Oil & Gas	1,075	5	4 7/8	5	+ 1/8
do rights	10,971	.05	.04	.04	— .01
†Standard Oil of N. J.	1,190	65 1/8	62 1/8	65	+4

†Unlisted.

CLEVELAND STOCK EXCHANGE

Transactions Week Ended Oct. 10, 1936

	Sales	High	Low	Last	Change Over Week
Canfield Oil	....	....	....	....	....
do pfd	....	....	....	....	....
Nat'l Refining	125	7 3/4	7 1/2	7 1/2	— 1/2
do pfd	50	105	105	105	—3

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The Accepted Standards of Pennsylvania Bright Stock Excellence Since 1900

H-M and L-M Oils Are Made Solely By

THE CONEWANGO REFINING CO.

Warren, Pa.

Gasoline Demand 11.65% More In July than A Year Ago

NEW YORK, Oct. 8

AN INCREASE of 1,025,236,000 gallons, or 10.36 per cent, in gasoline consumption in the U. S. in the seven months ended July, this year, over the corresponding period of last year, is reported by the American Petroleum Institute from tax reports filed by wholesalers and dealers in the various states.

This is at a daily average rate of 51,276,000 gallons during this year, compared with a daily average demand of 46,682,000 gallons last year.

All but two states indicated increases in consumption during this period this year. The two states where demand decreased were the Dakotas. Increases ranged from 1.19 per cent in Nebraska to 22.83 per cent in New Mexico.

During July this year consumption

Gasoline Consumption By States, July, 1936

(Figures in Thousands of Gallons)

	Month of			Per Cent	7 Months Ended With		Per Cent
	June, 1936	July, 1936	July, 1935	Chge. 1936	July, 1936	July, 1935	Chge. 1936
	Gallons	Gallons	Gallons	over 1935	Gallons	Gallons	over 1935
Alabama	17,125	17,784	15,406	+15.43	110,877	95,462	+16.15
Arizona	8,166	8,195	7,088	+15.62	54,076	45,607	+18.56
Arkansas	12,871	14,430	13,348	+ 8.11	83,427	77,527	+ 7.61
California	140,152	148,912	146,514	+ 1.64	929,689	832,142	+11.72
Colorado	18,849	21,220	18,447	+15.03	113,874	101,046	+12.69
Connecticut	27,394	30,607	28,145	+ 8.75	161,946	146,833	+10.29
Delaware	4,677	5,247	4,191	+25.20	27,582	24,611	+12.07
Dist. of Columbia	10,912	11,668	10,893	+ 7.11	71,220	65,435	+ 8.84
Florida	22,300	22,823	22,350	+ 2.12	187,747	178,212	+ 5.35
Georgia	24,866	27,184	24,098	+12.81	163,247	150,435	+ 8.52
Idaho	8,302	9,311	7,618	+22.22	44,740	37,518	+19.25
Illinois	108,852	115,469	104,160	+10.86	660,030	589,405	+11.98
Indiana	51,751	53,118	47,577	+11.65	309,090	274,383	+12.65
Iowa	44,837	45,567	40,512	+12.48	256,514	232,536	+10.31
Kansas	50,621	48,373	48,207	+ 0.34	261,143	235,763	+10.76
Kentucky	22,083	22,466	18,993	+18.28	124,448	110,701	+12.42
Louisiana	18,500	19,956	16,281	+22.57	120,064	103,674	+15.81
Maine	13,580	16,357	15,079	+ 8.47	70,066	62,359	+12.36
Maryland	22,369	23,780	21,510	+10.55	133,840	120,050	+15.65
Massachusetts	61,544	66,447	63,348	+ 4.89	359,875	334,826	+ 7.48
Michigan	91,831	102,022	85,219	+19.72	546,282	489,563	+11.58
Minnesota	48,546	52,681	45,623	+15.47	260,266	238,263	+ 9.23
Mississippi	13,537	14,936	12,087	+23.57	88,769	77,694	+14.25
Missouri	50,612	53,736	48,166	+11.56	311,848	281,168	+10.91
Montana	11,149	12,905	10,662	+21.04	62,389	52,266	+19.37
Nebraska	19,328	24,232	23,006	+ 5.33	128,730	127,217	+ 1.19
Nevada	3,285	3,679	3,065	+20.03	18,482	16,580	+11.47
New Hampshire	7,828	9,517	8,695	+ 9.45	43,271	38,937	+11.13
New Jersey	91,490	89,328	85,509	+ 4.47	513,760	459,286	+11.86
New Mexico	6,878	7,346	5,818	+26.26	41,810	34,038	+22.83
New York	151,683	185,871	165,628	+12.22	940,983	889,268	+ 5.81
North Carolina	29,474	32,327	25,581	+26.37	187,894	167,650	+12.07
North Dakota	11,083	11,346	12,920	—12.19	60,900	67,962	—10.39
Ohio	107,132	111,257	99,137	+12.22	646,314	585,490	+10.39
Oklahoma	36,608	35,231	32,245	+ 9.26	210,807	185,384	+13.71
Oregon	†19,494	22,231	19,351	+14.88	117,908	102,042	+15.55
Pennsylvania	117,351	125,645	98,623	+27.40	701,126	657,421	+ 6.65
Rhode Island	11,276	11,716	11,458	+ 2.25	64,194	60,620	+ 5.89
South Carolina	13,513	14,896	12,768	+16.67	89,450	81,312	+10.01
South Dakota	11,984	11,445	12,577	— 9.00	63,936	68,574	— 6.76
Tennessee	21,727	22,699	21,104	+ 7.56	135,511	124,033	+ 9.25
Texas	101,357	101,346	89,810	+12.84	616,096	542,080	+13.65
Utah	7,651	8,684	7,738	+12.22	44,385	38,644	+14.86
Vermont	5,696	6,902	6,122	+12.74	31,132	26,791	+16.20
Virginia	28,299	30,745	27,213	+12.98	171,764	156,621	+ 9.67
Washington	28,634	32,420	28,821	+12.49	177,053	153,831	+15.09
West Virginia	16,511	17,271	14,741	+17.16	98,792	87,888	+12.41
Wisconsin	49,526	53,273	45,667	+16.65	273,466	241,066	+13.44
Wyoming	5,812	7,399	6,179	+19.74	31,012	26,375	+17.58
Total	1,809,046	1,942,000	1,739,298	+11.65	10,921,825	9,896,589	+10.36
Daily average	60,302	62,645	56,106	+11.65	51,276	46,682	+ 9.84
Change from previous year:							
Total change		+202,702			+1,025,236		
Per cent chge. in daily av.		+11.65%			+9.84%		

†Revised.

totaled 1,942,000,000 gallons, an increase of 202,702,000 gallons, or 11.65 per cent over consumption in July of last year. Daily average demand was 62,645,000 gallons in July this year, compared with 56,106,000 gallons last year.

Detailed figures are given in the accompanying table.

Oil Co-op Wholesale Reports Expansion

COLUMBUS, O.—The Farm Bureau Oil Co., organized Oct. 28, 1930, by representatives of the farm bureau co-operative associations of Ohio, Indiana and Michigan, has changed its name to United Co-operatives, Inc., according to the October issue of Ohio Farm Bureau News, published by the Ohio Farm Bureau Federation.

United Co-operatives, Inc., now includes in its owning and controlling membership Southern States Co-operatives, Inc., Richmond, Va.; Consumers Co-operative Oil Co., Sauk City, Wis.; Maryland Farm Bureau Federation, Baltimore; Farmers' Co-operative Exchange, Raleigh, N. C.; Co-operative G. L. F. Farm Supplies, Ithaca N. Y.; Pennsylvania Farm Bureau Co-operative Association, Harrisburg; and the three original charter members.

Net worth of the wholesale federation has grown from $54,824 at the close of Aug. 1931, to $165,518 for the same date this year. For the 10 months ended Aug. 31, 1936, the federation had sold 868,832 gallons of lubricating oil, as compared with 773,648 gallons for corresponding period of the previous year, it is reported. The association has its own storage and blending plant at Indianapolis and is now studying plans for expanding into other lines of merchandise required by member associations, it is said.

A convention of the newly-expanded United Co-operatives, Inc., the first of its kind, will be held in Columbus Oct. 23 and 24. It is expected that 1000 truckmen and co-op managers will attend.

Carolina Dealers Join To Urge Lower Taxes

ASHEVILLE, N. C., Sept. 29.—At a meeting of prominent oil dealers from the two mountain counties of Buncombe and Madison held here, an organization named the Buncombe-Madison County Oil Dealers association was formed. Its purpose is to combine the interests of dealers in securing relief from burdensome taxes.

This group is affiliated with the North Carolina Petroleum Industries Committee and Robert G. Johnson, of Raleigh, secretary of the state PIC, assisted in the organization of the dealers. Officers selected were Alvah Pearce, chairman, R. Grey secretary, and C. V. Cole, vice-chairman.

A resolution was passed at the meeting calling upon the U. S. Senators to use their influence in securing the repeal of the federal tax on all petroleum products and requesting that the state senators use their influence in opposing any added taxes on these products.

For some weeks previous to this organization posters were placed in windows and conspicuous places at filling stations reading. "Gasoline is Cheap. The Tax is High, State Tax 6 Cents, Federal Tax 1 Cent."

Local resentment of the dealers was first voiced during 1935, when a member of a civic club offered a resolution before his club calling upon the city council to operate a filling station in order to force the individual dealers to reduce their prices. No action was ever taken on this suggested action, however.

Resignation Announced

CLEVELAND—Harold C. Eaton, of Butler, Pa., has announced his resignation as president and general manager of the Ultra-Penn Refining Co., effective as of June 8 last.

Mr. Eaton is well known throughout the Pennsylvania industry. After graduating from college in 1914 as a civil engineer he became manager of the Island Petroleum Co., at Pittsburgh. He resigned that position in 1925 to become manager of operations of the Valvoline Oil Co., which office he held until 1931, when he resigned to organize and head the Ultra-Penn Refining Co., at Butler.

Gasoline Pump Shipments

WASHINGTON, Oct. 5.—Gasoline pumps valued at $1,860,542 were shipped during August, as compared with shipments valued at $1,265,429 for August, 1935, according to the Commerce Department. Oil and grease equipment and other measuring and dispensing pump shipments were valued at $141,618 in August, as against $104,732 in August last year.

State Executives to Meet At Marketers' Convention

MINNEAPOLIS, Oct. 8.—A meeting of the State Executives Council, which consists of officers and directors of state marketing associations, has been called during the National Oil Marketers' association meeting in Chicago, Edwin E. Hadlick, chairman of the council and secretary of the Northwest Petroleum Association, announced today.

A luncheon meeting will be held Oct. 28, immediately following the morning session of the convention.

OIL INDUSTRY EXCHANGE

Positions Wanted

CHIEF CLERK. 18 years major company marketing experience. Age 37. Go anywhere. Reasonable salary. Address Box 364.

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BULK PLANT

For sale, or will lease to responsible parties: 10 tanks, 138,000 gallon storage, warehouse, 11 lube oil tanks, office, garage, tank trucks.

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GILBERT & BARKER T-65 five-gallon hand pumps for sale. Reconditioned, painted prime coat, less hose and nozzle. $22 FOB Buffalo, N. Y. Address Box 363.

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Select list of oil companies, bulk plants and jobbing concerns in various parts of country.

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Equipment Wanted

TANK CARS WANTED. Will purchase 25 class 2 or class 3 tank cars, eight or ten thousand gallon capacity with welded coils or without. Will pay cash. Address Box 361.

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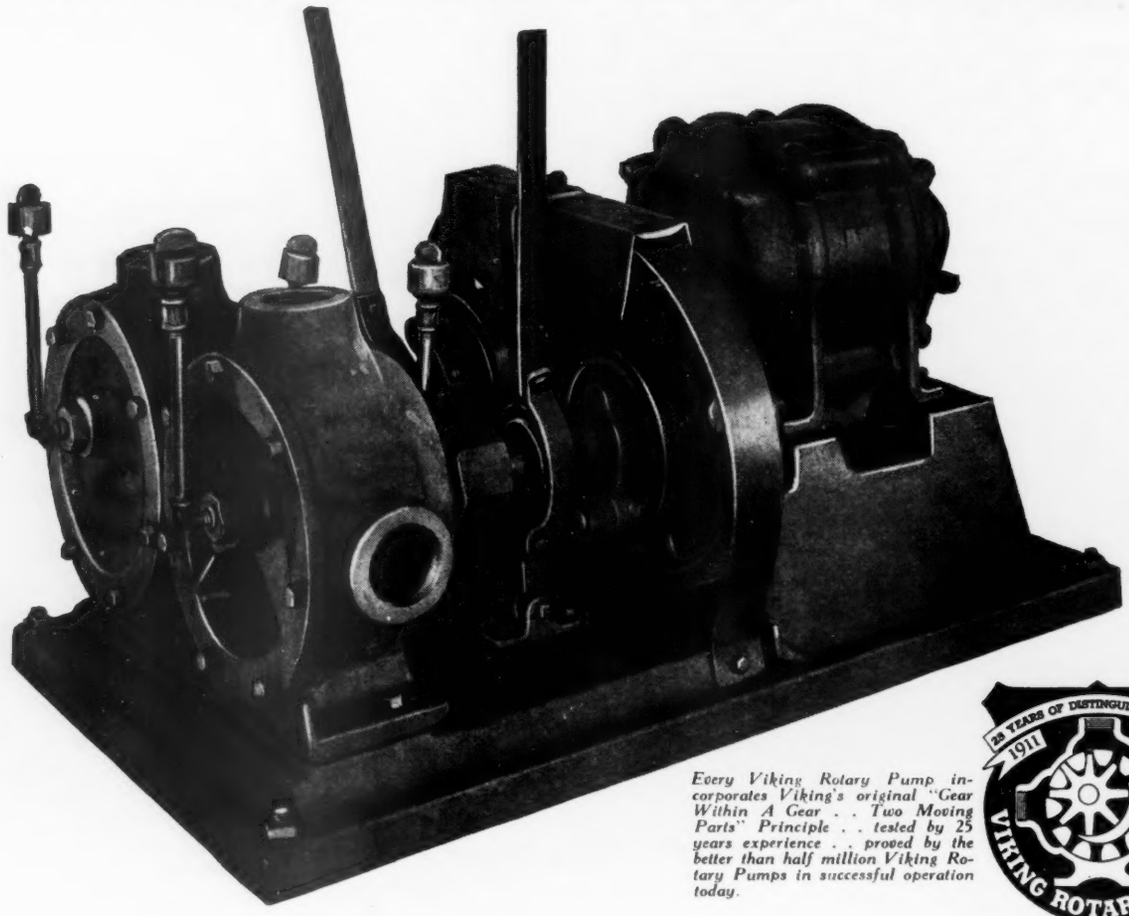
The Case History of a 19-yr. old VIKING ROTARY PUMP



Every Viking Rotary Pump incorporates Viking's original "Gear Within A Gear . . Two Moving Parts" Principle . . tested by 25 years experience . . proved by the better than half million Viking Rotary Pumps in successful operation today.

25 YEARS OF DISTINGUISHED SERVICE 1911 1936 VIKING ROTARY PUMPS

The Viking Twin Outfit (illustrated above) was installed in the Rochester, Minn., bulk plant of the Hawkeye Oil Company back in 1917—19 years ago. The Hawkeye Company sold out to the Blackhawk Oil Company—and recently this Veteran Viking became a part of the Mid-Continent Oil Company's distribution system.

During the 19 years of its service this faithful VIKING served three masters. For 19 eventful years it was on the job day and night, winter and summer . . pumping millions of gallons of gasoline without a hitch, without ever a shutdown for repairs. In spite of this long period of service the Veteran Viking is still good for many more years of service. The owner recently shipped it to our factory to equip it with a modern motor, for a new bulk plant. Purely out of sentiment (with perhaps a little salesmanship thrown in) we convinced the Mid-Continent people that it should be replaced with a younger, more modern Viking—which was done.

This is the case history of just one of the many thousands of Viking Rotary Pumps—five, ten, fifteen, twenty and yes, even, twenty-five years old that are still on the "firing line." You really get LOWER PUMPING COSTS and LONGER LIFE with the simply - designed, sturdily constructed VIKING.

Viking Pump Company
Cedar Falls, Iowa